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ABSTRACT

The current study is an extension fo the Instructional Dimensions Study (IDS), part of a comprehensive study of compensatory education programs. This study had two purposes: (1) to investigate achievement changes over the summer of 1977 and during the 1978 calendar year for IDS students, and (2) to compare summer gains of compensatory and non-compensatory education students. The sample population consisted of students in first-grade reading and mathematics and third-grade reading and mathematics. Students took a standardized achievement test, 12 months after the IDS pretest. Achievement level changes over the three time periods were examined--school year, summer months, and calendar year. Results indicated significant gains over the school year and no loss of achievement over the summer. Although two of the compensatory education samples gained one or two months over the summer, no sample met the expected three-month gain for this period. Calendar year gains were generally one to two months greater than expected. Statistical analysis revealed no general significant differences between compensatory and non-compensatory groups. (Author/MH)

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FINAL REPORT

FOLLOW-UP TESTING STUDY

1977-1978

Prepared For

National Institute of Education
Educational Equity Group
Compensatory Education Division

U.S. Department of Health, Education, and Welfare

June 30, 1978

Washington, D.C.

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FINAL REPORT

FOLLOW-UP TESTING STUDY

1977-1978

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Compensatory Education Division

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- Testing coordinators who conducted all field work.
- Project officers at the National Institute of Education who provided insightful comments on all aspects of the study.

ABSTRACT

The current study is an extension of the Instructional Dimensions Study (IDS), a study conducted for the National Institute of Education (NIE), as part of a comprehensive study of compensatory education as mandated by the Education Amendments of 1974 (P.L. 93-380, Section 821(a)). Over the school year, IDS compensatory education students gained, in grade equivalents, from one to five months more than their expected gain of seven months. Gains were also equal to or greater than expected for non-compensatory education students. However, losses in achievement have been found to occur over the summer, especially for compensatory education students. The purpose of the present study was to investigate achievement changes occurring over the summer period and the calendar year for IDS students. A second purpose was to compare the summer gains of compensatory and non-compensatory education students. Four ancillary questions were also investigated. A sample of IDS students were selected from seven school districts and approximately 24 schools and 75 classrooms in first grade reading, first grade math, third grade reading, and third grade math. Each sample contained approximately 1,200 students, with most students being in both the reading and math samples. A standardized achievement test was administered in the fall of 1977, 12 months after the IDS pretest. Raw scores were converted to standard scores (and then to grade equivalents) and gains were computed for the different testing intervals. All districts were combined for the analyses. Achievement level changes over three time periods were investigated -- school year, summer period, and calendar year. As in the IDS, students in the current study had dramatic gains over the school year. No evidence of a loss in achievement level over the summer period was found. Two of the compensatory education student samples gained one or two months over the summer with three of the non-compensatory education samples gaining these amounts. No sample, however, met the expected gain of three months for this period. Calendar year gains were generally one or two months greater than expected. Thus, rates of gain were not as dramatic when considered over the calendar year. The t-tests revealed no significant differences in summer gain between compensatory and non-compensatory education students, except for first grade reading, where compensatory education students gained one month less. Group sizes were so different in most of the ancillary analyses that caution must be used in interpreting the results.

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CHAPTER I

BACKGROUND OF THE STUDY

The Follow-Up Testing Study is an extension of the Instructional Dimensions Study (IDS), a study conducted during the 1976-1977 school year, as a part of the National Institute of Education's (NIE) Congressionally mandated research in compensatory education. The major purpose of the present study is to assess the achievement of a subsample of IDS students in order to determine if the larger than expected gains observed in the IDS would be maintained over the summer months.

LEGISLATIVE HISTORY

The Education Amendments of 1974 (Public Law 93-380) mandated NIE to conduct a comprehensive study of compensatory education and report its findings to the Congress. Specifically, Clauses (1) through (6) of Section 821(a) of P.L. 93-380 required NIE to conduct a study of compensatory education programs that would include: (1) an examination of the purposes and effectiveness of such programs; (2) an analysis of the means to identify children in need of such programs; (3) an analysis of the effectiveness of methods and procedures; (4) an examination of alternative methods; (5) the administration, by NIE, of not more than 20 experimental programs; and (6) findings and recommendations.

NATIONAL INSTITUTE OF EDUCATION INVOLVEMENT

NIE conceived four main themes for addressing the issues of concern to Congress--Student Development, Services to Children, Funds Allocation, and Administration of Compensatory Education Programs. The Student Development program contains many separate but interrelated research projects. In addition to the IDS and the Follow-Up Testing Study, other projects include the following:

- Syntheses of previous evaluations of reading and mathematics programs
- Studies of alternative designs for the delivery of compensatory education services

The Instructional Dimensions Study (NIE, 1977) was designed to complement the National Survey of Compensatory Education by providing a detailed examination of the impacts of specific instructional practices. The IDS was a one-year field study of the impacts of instructional practices and teacher characteristics on student achievement in, and attitudes toward, reading and mathematics in the first and third grades. The major variables of interest in the study were individualized practices and instructional settings for compensatory education. Other variables investigated were opportunity to learn, motivators, instructional events, teacher background, and costs. (For a detailed description of IDS purposes, methods, and findings, see Appendix A.)

RATIONALE FOR THE FOLLOW-UP TESTING STUDY

The dependent variable of major interest in IDS was student achievement in reading and math. Both pretest (Fall 1976) and posttest (Spring, 1977) test data were collected on students, with posttest scores being used as the criterion variable and pretest scores as a covariate. Thus, the descriptive test data on the IDS sample included data on pretest and posttest achievement levels for all students and for two subgroups (i.e., compensatory education students and non-compensatory education students) in first grade reading, first grade math, third grade reading and third grade math. Table 1 shows achievement test score data (raw scores, grade equivalents, and percentiles) for all IDS students and for the two subgroups in both grades and subjects.[1] Regardless of the standard of success

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[1] These data differ slightly from those originally reported in IDS reports because extensive editing of the data has been since accomplished.

Table 1

FALL AND SPRING ACHIEVEMENT TEST SCORES FOR STUDENTS IN THE IDS SAMPLES

		Raw Score			Grade Equivalent			Percentile		
	N	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain
All Students										
Reading - Grade 1	3906	29.2	56.3	27.1	0.7	1.7	1.0	41	46	5
Math - Grade 1	4054	18.7	32.9	14.2	0.7	1.8	1.1	37	53	16
Reading - Grade 3	4291	30.3	44.2	13.9	2.6	3.3	0.7	36	40	4
Math - Grade 3	4251	33.1	52.6	19.5	2.3	3.5	1.2	21	41	20
Compensatory Education Students										
Reading - Grade 1	1530	25.4	48.9	23.5	0.4	1.6	1.2	27	36	9
Math - Grade 1	694	16.8	28.6	11.8	0.5	1.6	1.1	28	40	12
Reading - Grade 3	1658	21.8	33.7	11.9	2.0	2.8	0.8	18	25	7
Math - Grade 3	962	25.1	41.7	16.6	1.9	3.1	1.2	9	27	18
Non-Compensatory Education Students										
Reading - Grade 1	2376	31.6	61.2	29.6	1.1	1.8	0.7	50	52	2
Math - Grade 1	3360	19.1	33.8	14.7	0.7	1.8	1.1	40	55	15
Reading - Grade 3	2633	35.6	50.9	15.3	3.0	3.7	0.7	47	50	3
Math - Grade 3	3289	35.5	55.7	20.2	2.5	3.6	1.1	26	45	19

applied, the programs in which most IDS students participated appeared to be effective over the school year.

All IDS students gained at or above expected gains (i.e., one month for each month of the testing interval or seven months during the pretest-posttest interval), with the highest observed gain being twelve months in third grade math. For non-compensatory samples, gains were slightly lower--exactly at expectancy level in two of four groups and above it in the other two. The highest gains were exhibited by the compensatory education students, with gains ranging from eight to twelve months.

When one considers the three standards of success that are currently in use for evaluating the effectiveness of programs for disadvantaged students, these observed gains for compensatory education students are impressive. These three standards are (1) month-for-month growth in grade equivalents, (2) a ten-percentile point increase, and (3) eight months gain over a calendar year (David and Pelavin, 1977.) (The third standard can't be applied because IDS data exist only for a school year testing interval.) Each sample of compensatory education students meets the month-for-month standard, with two samples exceeding this standard by five months. Two samples met the ten-percentile point increase standard, with the other two only slightly below the standard. This is somewhat remarkable in light of the David and Pelavin (1977) statement that:

> ...the ten-percentile standard is somewhat arbitrary and extremely stringent -- one which to our knowledge has never been met. (p. 9)

If the IDS compensatory education students were merely to maintain their Spring 1977 achievement levels over the summer months, gains would still be impressive, especially since previous evaluations have shown that the average yearly gain for disadvantaged students is approximately seven months. The more likely occurrence, however, is that students would lose (i.e., drop in achievement level) over the summer months.

A series of analyses of evaluation data from four different compensatory education programs found that conclusions about program effectiveness are greatly influenced by the period of time over which testing occurs (David and Pelavin, 1977). In the conclusion to that study, the authors stated:

> ...the inclusion of the summer months in the evaluation can substantially reduce estimates of achievement and often reverse positive judgments of program effectiveness. This results from the fact that losses in achievement often occur over the summer. (David and Pelavin, 1977, p. 57)

The present study was, therefore, designed to examine IDS student achievement data over a 12-month period, using three test administrations--Fall, Spring, and Fall--in order to provide data on the extent of achievement changes occurring over the summer period. In this manner, conclusions could be drawn about the effectiveness of both regular and compensatory education programs studied in the IDS in terms of maintenance of achievement gains over the summer months.

In addition, the present study also includes comparisons of gains over the summer period between compensatory education and non-compensatory education students. For compensatory education students, four variables are explored to determine if they influence achievement gains over the three periods studied (i.e., school year, summer, and calendar year)--setting, school year gain, pretest level, and summer school participation.

QUESTIONS INVESTIGATED

Two basic research questions and four ancillary questions are investigated in the Follow-up Testing Study:

- Do the two subgroups of IDS students (i.e., compensatory education students and non-compensatory education students) maintain their school year achievement gains over a calendar year evaluation period?

- Are there differences in achievement gains for the summer period between compensatory education students and non-compensatory education students, where compensatory education status is determined for the school year?

- For compensatory education students, are there differences in achievement score gains (1) between students who received compensatory education instruction in a mainstream setting as compared to those receiving instruction in a pullout setting; (2) between those with school year achievement gains above the sample mean gain as compared to those below the sample mean gain; (3) between those scoring above the national norm for the pretest as compared to those scoring below the national norm; and (4) between those who participated in summer school programs as compared to those who did not participate?

Data for each of the four samples--first grade reading, first grade math, third grade reading, and third grade math--are presented separately, with similarities and differences across both grades and subjects discussed.

CHAPTER II

METHODOLOGY

This chapter is divided into four sections: (1) sample selection, (2) data collection and preparation procedures, (3) sample description, and (4) analysis strategies.

SAMPLE SELECTION

A brief description of the sample selection process used for the Instructional Dimensions Study is given first because the sample for the present study was drawn from the IDS sample.

Sample Selection Procedures for the IDS[1]

A purposive sampling procedure was used for the IDS in order to obtain sufficient variation of naturalistically occurring characteristics. School districts in the eastern part of the U.S. were given highest priority for economic reasons. Recommendations of experts and site visits to districts for the purpose of collecting information on program characteristics were used to identify appropriate districts and schools. Districts were then selected so that variation across classrooms would exist on: degree of individualization, setting for compensatory education instruction (i.e., mainstream or pullout), and neighborhood economic status.

All classrooms selected were participants in a continuing program of instruction. That is, the instructional program at the school had been in operation at least one year prior to IDS, and regular classroom teachers had at least one year of teaching experience in the program. Reading and math were selected as the subject areas of interest because they are the subjects most commonly supported by compensatory education funds. The first grade was selected because an assessment of the effects of instructional practices at an early age was thus possible and because it is a critical year for beginning reading. The third grade was selected to provide a comparison of the results at a higher grade level.

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[1] For a detailed description of sample selection procedures for the IDS, see Chapter III, "Description of the Sample", in *Study Findings, Final Report of the Instructional Dimensions Study, 1976-1977* (Kirschner Associates, Inc., 1977).

Sample Selection Procedures for the Follow-Up Testing Study

As was the case in IDS, the regular classroom for reading and/or math was used as the sampling unit within schools for the Follow-Up Testing Study. It should be noted that classroom, as the term is used in the present study, is defined as it was in the Instructional Dimensions Study. That is, a classroom is comprised of a group of students who were provided instruction in reading and/or math by a specific regular teacher during the 1976-1977 school year. Of course, when the Fall 1977 testing was conducted, students were not necessarily together in the same classroom units because of promotions to higher grades and transfers out of IDS schools.

The two major selection criteria for classrooms were (1) the willingness and ability of the school district and principal to participate in the testing and (2) the availability of complete predictor data from the IDS data files. For the IDS analyses, a reduction of approximately 50% of the total number of classrooms included in the study was necessary due to missing data. This occurred primarily because of the use of a 75% sample for videotaping, classrooms dropped due to invalid pretest scores, and missing teacher data. Because further investigations of the current study may be conducted, specifically in the identification of program and instructional characteristics that relate to program effectiveness over the summer and calendar year periods, completeness of such predictor variables was desired.

The fourteen school districts that participated in the IDS were notified during the summer of 1977 that a follow-up testing study of students who participated in the IDS was planned. One district declined to participate because of a conflict with the schedule for the district's testing program. Six districts were eliminated from consideration for one of the following reasons:

- The total number of available classrooms was too small.
- The number of classrooms with complete IDS data was too small.
- Compensatory education instruction was delivered by tutors and not mainstream or pullout settings.
- Student mobility might create too many logistical problems in the tracking of students.

The seven school districts selected for the present study represent all of the five states included in the IDS.

Within the school districts selected, IDS school buildings were selected using two criteria: (1) more than two classrooms per grade had complete data and (2) stability in the student population was demonstrated. Once buildings were selected, all IDS classrooms within the building were included for participation in the present study. This procedure meant that some classrooms were included even though predictor variable data were not complete.

The two selection criteria for students within sampled classrooms were: (1) presence in the school building (or in another participating school building in the district) during the Fall 1977 test administration, and (2) valid IDS pretest and posttest achievement scores in reading and/or math. Because analyses were conducted separately by subject, a student could have an invalid score in one subject area and still be included in the other area, if that score was valid.

DATA COLLECTION AND PREPARATION PROCEDURES

The data collection and data preparation procedures used for the present study were based on those used for the IDS. Data collection for the present study occurred in two areas -- achievement tests and summer school program participation--and was then merged with the existing IDS test data for the subjects of the present study.

Achievement Test Administered

In the IDS, the *Comprehensive Test of Basic Skills* (CTBS) was used to measure achievement in reading and math. *Level B, Form S* (CTB, McGraw-Hill, 1973, 1974) was used in the first grade with both *Level 1, Form S* (CTB, McGraw-Hill, 1973, 1974) and *Level 1, Form T* (CTB, McGraw-Hill, 1975) being used in the third grade. Exhibit 1, Part A, shows the levels and forms administered at each test administration, and Part B, the subtests and ranges in raw scores and standard scores.

Note from Exhibit 1 that Level 1 was used in the third grade and in Fall 1977, when most IDS third graders were in the fourth grade. This Level is designed for students who have achievement levels from 2.5 to 4.9. Given that average Spring 1977 grade equivalents are about 3.4 for all students, it was decided to use Level 1, in Fall 1977, as well, since little possibility of topping out existed even in the non-compensatory education student samples. Form T was selected for use instead of Form S because the IDS conducted extensive curriculum analyses linked to Form T content.

The decision as to what level to administer to the first graders in Fall 1977 was more difficult. The Level B CTBS test is designed for use with students who have achievement levels from K.6 to 1.9., with Level C for use with students at levels from 1.6 to 2.9. Thus, Level C would appear to be the appropriate test to administer at the beginning of the second grade.

EXHIBIT 1

Description of Achievement Tests Administered

Part A: Levels and Forms Administered

	Fall 1976	Spring 1977	Fall 1977
First Grade			
Level	B	B	B
Form	S	S	S
Third Grade			
Level	1	1	1
Form	S	T	T

Part B: Subtests and Total Test Ranges in Raw Scores and Standard Scores

Subtests	Raw Score Range	Standard Range Score	
First Grade			
Letter Sounds	0-22	137-254	
Word Recognition I	0-19	148-262	
Reading Comprehension	0-24	148-255	
Word Recognition II	0-19	151-264	
TOTAL READING	0-84	29-346	
Mathematics Concepts and Applications	0-24	138-277	
Mathematics Computation	0-32	170-326	
TOTAL MATH	0-56	111-350	
Third Grade		Form S	Form T
Reading Vocabulary	0-40	142-567	160-590
Reading Comprehension	0-45	135-643	115-645
TOTAL READING	0-85	112-631	101-621
Mathematics Computation	0-48	183-465	170-470
Mathematics Concepts	0-25	141-536	125-550
Mathematics Applications	0-25	157-544	160-540
TOTAL MATH	0-98	147-518	123-520

An examination of the number of students who topped out on Level B in Spring 1977 was made in order to assist in determining if Level B was the appropriate test to administer. Students were classified as having topped out on Level B if their raw score converted to a grade equivalent above 1.9, the highest achievement level at which Level B is valid for administration. Table 2 shows the frequency and percent of first grade students who topped out in Spring 1977 for all students, compensatory education students, and non-compensatory education students in first grade reading and math. The percents of students topping out in reading and math for the three samples, respectively, are 20.8% and 34.1%; 10.4% and 13.3%; and 26.7% and 36.9%, with the fewest number of students topping out in the compensatory education samples. (Although these percents are higher than desirable, the topping out phenomenon is a common situation in the first grade when the same test is used to measure Fall and Spring achievement.) Because previous research has found that losses in achievement level generally occur over the summer for compensatory education students, it was assumed that the same would be true in the current sample. It was anticipated, then, that use of Level B would result in a lower percent of topping out students in Fall 1977, and would be, thus, appropriate to administer. Additional reasons for using Level B were the extensive curriculum analyses conducted in IDS that were linked to Level B content and the differences in content between Levels B and C.

Table 1 (in Chapter I) reveals that some bottoming out occurred in Fall 1976, as the means for six of the 12 samples are at or below the effective levels (K.6 and 2.5) of Levels B and 1. The Fall 1976 means for the samples where bottoming out occurred could be unreliable. Future analyses may address this issue, but it was not considered to be within the scope of the Follow-Up Testing Study.

Table 2

FREQUENCY AND PERCENT OF FOLLOW-UP TESTING FIRST GRADE STUDENTS TOPPING OUT ON LEVEL B IN SPRING 1977

	Reading[1]		Math[2]	
	F	%	F	%
All Students[3]	283 (N = 1360)	20.8%	457 (N = 1338)	34.1%
Compensatory Education Students	41 (N = 395)	10.4%	19 (N = 143)	13.3%
Non-compensatory Education Students	203 (N = 760)	26.7%	389 (N = 1053)	36.9%

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[1] Total possible raw score = 84, topping out score ≥ 74.

[2] Total possible raw score = 56, topping out score ≥ 38.

[3] Numbers are based on all students with valid scores for the Spring 1977 test administration. They are thus slightly higher than sample sizes reported subsequently because some students were deleted due to incompleteness of test data for all three test administrations.

Testing Periods

The pretesting for IDS occurred in September 1976, with the Spring 1977 testing occurring in April. The follow-up testing was conducted approximately one year after the IDS pretesting, during the weeks of September 12-16, or 19-23, 1977. (In one district, testing was delayed one week due to a teacher's strike). Detailed information on the dates testing occurred in each district, as well as the number of school and calendar days between the different test administrations, is shown in Appendix B.

The grade equivalent standard suggested by the test publishers assumes a one-month gain in achievement for each of the nine months of the school year, a one-month gain during the summer period, and, consequently, a ten-month gain over a calendar year for the 50th percentile student. This is without regard to the number of school days per month (which may vary both within and across districts during the school year). In each district in the Follow-up Testing Study, the number of calendar months between the Fall 1976 and Spring 1977 test administrations was seven; thus, the expected growth in grade equivalents is seven months for each district. There were five calendar months between the Spring and Fall 1977 test administrations in all districts. Because only one month gain is expected over the three months of the summer, the expected growth for this period is three months for each district. Consequently, the interval from Fall 1976 to Fall 1977 was such that the expected growth is ten months for this period. Students were combined across districts in the current study because the consistency in the time intervals between test administrations.

The two testing dates for the 1976-1977 school year test administrations were fixed because of data analysis time requirements for the IDS. Because it was necessary to schedule the Fall 1977 testing twelve calendar months from the Fall 1976 testing, no flexibility in scheduling existed. However, testing for most school year evaluations is conducted in October and May. In the David and Pelavin report (1977), three of the four data sets had October - May testing intervals. For the one program that used an October - April testing interval, smaller relative Summer losses were found. In fact, no losses at all in grade-equivalent achievement levels were found in the first and third grades for the April - October period in that data base. Losses were found, however, in per-month rate of gain revealing that the April - October interval is still sensitive to summer loss when the rate is considered. Thus, although approximately two more months of school occurred after the Spring 1977 test administration, in the IDS, April scores were used rather than predicted end-of-school-year scores.

Data Collection Procedures

For the 1976-1977 school year, all testing was administered by trained Testing Assistants, who were trained by the IDS Site Coordinators in each district. The principal focus of the training was aimed at following the directions of the test manuals in order to ensure that test administration procedures were uniform across sites. Tests were administered in the morning in two sessions on consecutive days. Regular classroom teachers remained in the classroom while the testing was conducted but did not participate in test administration. Few make-up tests were necessary; those that were necessary (for approximately 5% of the students) were conducted within two weeks after the week of testing.

For the follow-up testing in Fall 1977, similar procedures were followed. The study team employed Testing Coordinators for each district, five of seven of whom had been IDS Site Coordinators. These Testing Coordinators recruited and trained Testing Assistants. (See Appendix C for guidelines for Testing Coordinators and Testing Assistants for the present study.)

After training was given, the first task of Testing Assistants was to locate students included in the Follow-up Testing Study. School building principals were provided with the names of the selected students. Information was then sought as to where the students were at that time. Testing was then scheduled in IDS school buildings as well as in some that had not been in the IDS in order to include sizeable numbers of transferred students.

All tests were administered by the Testing Assistants in the regular teacher's classrooms. For logistical reasons, all students within a classroom were tested, with data from non-IDS students not incorporated into the data base.

Tests were administered in two morning sessions on consecutive days. Two waves of testing were conducted each week, permitting many make-ups to be conducted during regular testing times. Make-up tests that could not be completed during the week of testing were administered when necessary, within two weeks after regular testing was completed. Make-up testing was scheduled only after a review of the completion rate for each classroom was made. No make-ups were scheduled if the percent of students tested of those still remaining in the district was above 95%.

After testing had been completed, Testing Assistants collected data from school records on summer school participation for each student. For students who had attended a summer school program, data was collected on the subject matter in which the student had received instruction--either reading or math--and on the total hours of instruction during the summer. This procedure means that,in some cases, total possible hours of instruction are represented, not actual hours received. Actual hours of instruction received might be lower due to student absenses.

Data Preparation Procedures

Follow-up testing test data for each student was item punched. A subtest, and the total test of which it was a part, was considered invalid when the frequency of omits equalled the total number of items. Students with invalid tests were dropped. A scoring program scored all student responses, obtained the total number of correct items for each subtest, and then summed the subtests to obtain total raw scores in reading and math.

Next, student identification codes (the same codes used in the IDS) were used to merge the follow-up testing data with IDS data from the 1976-1977 school year. The following information was stored for each student in reading and/or math:

- Identification codes;
- Total raw score and Standard Score for each test administration;
- Compensatory education status during the 1976-1977 school year; and
- Hours of summer school instruction.

Metrics Used

The metric used for all analyses (both descriptive and inferential) was the Expanded Standard Score, hereforth referred to as standard scores. Individual student raw scores were transformed to standard scores, using the appropriate conversion tables for the tests. The use of standard scores, rather than raw scores, is preferable because standard scores form a single, equal-interval scale of scores across all grades, regardless of the levels and forms of the CTBS administered. Both grade equivalents and percentiles have measurement characteristics that make them unsuitable for computing means and other statistics. However, grade equivalents and percentiles are understandable metrics that are widely in use. In addition, their use facilitates comparisons between obtained and expected achievement levels and growth, as well as with other evaluation studies. For that reason, mean standard scores were converted to grade equivalents. Percentile conversions are not displayed because the latest point at which the Level B CTBS is normed is at the end of the first grade.

It is possible to convert the standard scores obtained on Level B to percentiles only by using the Level C/beginning-of-second-grade percentile table. This should be an accurate procedure because of the interlevel and interform articulation of standard scores on the CTBS. That is, if a student were given the Level B and the Level C test, the standard score obtained would be identical (there would, of course, actually be slight differences in the two standard scores due to measurement error). However, when this procedure was followed, certain groups of students displayed calendar year gains of more than 10 months (the gain that the 50th percentile student must have in order to remain at the same percentile) and showed percentile rank losses. However, if students gain more than expected, their percentile rank should increase. Because it was not known whether the percentile rank losses exhibited were an artifact of a lack of precise interlevel articulation between Levels B and C in the standard scores or the standardization sample students used by *CTBS*, or are a natural occurrence because most students below the 50th percentile gain more than 10 months over the calendar year of the first grade, it was decided not to report percentile ranks for the first grade. They were, then, not reported for the third grade merely for consistency of data reported.[1] Readers interested in percentile ranks, however, can use the reported standard scores to make percentile conversions.

Computed Variables

Computer programs were developed to compute raw score and standard score gains over the three test periods. In addition, programs classified students into:

- Those at/above or below the 50th percentile in Fall 1976; and
- Those with school-year standard score gain at/above or below the sample mean gain.

Summer school participation was identified by the presence of hours in instruction in summer school. Compensatory education status was assigned to those students with IDS compensatory education codes.

SAMPLE DESCRIPTION

Sample Sizes

The number of districts, school buildings, classrooms, and students in the present study are shown in Table 3. As indicated in Table 3, 75 reading and 73 math classrooms in the first grade and 76 reading and 74 math classrooms in the third grade participated in the study. All 1976-1977 school year teachers, except three in the first grade and six in the third grade, taught both reading and math. Of the total number of classrooms in the present study, 55% had complete predictor data for the IDS. In addition, approximately 75% of the students with valid pretest and post-test scores from the IDS were available (i.e. could be located in Fall 1977) for follow-up testing in the seven districts selected. Of those available, almost all (96 percent in the first grade and 98 percent in the third grade) participated in the follow-up testing.

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[1] Note that percentiles are shown in the computer tables in Appendix E. The procedure described above was used to develop beginning of second grade percentiles.

In first grade reading, first grade math, third grade reading, and third grade math, the total number of follow-up testing students represent samples of 29.6%, 29.5%, 31.0%, and 30.6% respectively of the total IDS samples. For compensatory education students, the respective percents are 25.8%, 20.6%, 34.1%, and 32.6% and, for non-compensatory education students, the respective percents are 32.0%, 31.3%, 29.0%, and 29.9%. The follow-up testing samples, then, represent approximately a 30% sample of the IDS students. A subsequent discussion will address the issue of whether or not these samples were similar to the total IDS samples in achievement level in Fall 1976 and Spring 1977.

District Characteristics

The seven school districts participating in the Study fall in three geographic regions--North Central (3), Mid-Atlantic (2), and South Atlantic (2). The mean public school enrollment in the districts was about 90,000 with a range from less than 8,000 to more than 200,000. All districts had Title I instructional programs. Across all districts, minority enrollment was 55% of the total enrollment, ranging from 4% to 75%. Average annual per-pupil expenditure from all sources of funds was approximately $1,700 with the range being from approximately $1,300 to $2,200. (See Appendix D for tables presenting data for study sample districts and

TABLE 3
SAMPLE SIZE DESCRIPTION

SAMPLE	NUMBER OF DISTRICTS	SCHOOLS	CLASSROOMS	STUDENTS
FIRST GRADE READING	7	24	75	1155
FIRST GRADE MATH	7	24	73	1196
THIRD GRADE READING	7	27	76	1329
THIRD GRADE MATH	7	27	74	1299

buildings on these characteristics.)

Compensatory Education Characteristics

As mentioned above, all districts operated Title I instructional programs in the first and third grades, with reading programs offered at both grades but with math often offered only at the third grade level. In addition to Title I compensatory education programs, some districts also operated compensatory education programs funded by other sources--ESAA, state compensatory education programs and local compensatory education programs. In some cases Title I funds were combined with state compensatory education program funds. For the IDS, and in the Follow-up Testing Study, compensatory education status was determined by participation in any compensatory education instruction program in reading and/or in math during the 1976-1977 school year. The majority of compensatory education students in the current study, however, were Title I students, as the data in Table 4 indicates.

This data is important to highlight for two reasons. First, most previous evaluations of the effectiveness of instructional programs for the disadvantaged have been limited to Title I programs. Secondly, non-Title I compensatory education programs may have higher cut-off scores for determining eligibility than Title I programs. Thus, at a particular school, students who fall below the 20th percentile could be assigned to a Title I program, while those falling from the 20th to the 40th percentile might be assigned to a non-Title I compensatory education program. Both the Title I and non-Title I programs in the IDS focused on the improvement of the cognitive development of low-achieving children. Thus, for study purposes, compensatory education was not restricted to Title I programs.

Summer School Characteristics

Only a small percentage of sample students participated in summer instructional programs in reading or math between the IDS post-testing

TABLE 4

NUMBER AND PERCENT OF SAMPLE STUDENTS PARTICIPATING IN SPECIFIC COMPENSATORY EDUCATION PROGRAMS

Funding Source	First Grade Reading		First Grade Math		Third Grade Reading		Third Grade Math	
	n	%	n	%	n	%	n	%
Title I	172	43%	98	69%	368	65%	265	84%
Title I & State A	66	17%	2	1%	87	15%	17	6%
Title I & States B & C	6	2%	--	--	14	3%	1	0%
State A Compensatory Education Program	25	6%	24	17%	19	3%	22	7%
States B and C Compensatory Education Programs	6	2%	--	--	5	1%	2	1%
ESAA	103	26%	18	12%	11	2%	6	2%
Other Local Compensatory Education Program	17	4%	1	1%	61	11%	1	0%
TOTAL	395	100%	143	100%	565	100%	314	100%

and the follow-up testing. In the first grade, four districts provided summer programs in reading, with only one providing it in both reading and math. For the third grade, three districts conducted summer programs in both reading and math, with one district providing only a summer reading program.

The average number of hours of instruction in reading and/or math that were provided in summer school programs was approximately 30 at both grades. Generally, the summer school programs were conducted five days a week, lasting from four to nine weeks for first grade students and from six to nine weeks for third grade students. All districts used local funds to support the summer instructional programs.

Table 5 presents data on the numbers of students in the Follow-up Testing Study who participated in summer school programs. For all students together, approximately 9% participated in summer programs in the first grade and approximately 4% in the third grade. For compensatory education students, participation was higher, except in third grade reading.

The small numbers of summer school participants make comparisons between participants and non-participants questionable. An additional problem is the selection factor, whereby only the lowest achievers during the school year may have had the opportunity to attend summer school. The current study, however, could not address these issues.

Setting Characteristics

Two settings for compensatory education instruction were of interest in the IDS--mainstream and pullout. In the IDS, analyses were conducted in order to determine how setting influenced achievement gains of compensatory education students. The present study also considers setting, looking at differences in gains over the three evaluation periods.

Students were classified as mainstream students if (1) they were participants in a compensatory education program during the 1976-1977

TABLE 5

SUMMER INSTRUCTIONAL PROGRAM DATA

	First Grade Reading	First Grade Math	Third Grade Reading	Third Grade Math
Total Participation in Summer Programs	107	98	58	52
Compensatory Education Participants in Summer Programs	52	32	21	26
Percent of total Compensatory Education Students	13	22	4	8
Average Hours of Instruction	31.52	31.76	30.73	31.04

school year and (2) their compensatory education instruction was received within the regular classroom. Mainstreamed classrooms were generally of the following types:

- All students within the classroom were Title I participants. The regular teacher provided instruction in reading and/or math, but had an instructional aide and extra materials provided with Title I funds.
- A portion of the class were Title I participants, with Title I instruction being provided as above.

In the pullout setting, students received their regular instruction within their classroom and received additional compensatory education instruction in another room, (e.g., in a reading or math laboratory arrangement). Students could be pulled out of the regular classroom either during their regular instructional time in reading or math or during instruction in another subject area.

Table 6 presents data on the number of compensatory education students in the two settings for both the Follow-up Testing Study and the IDS. It is obvious from these data that, with the exception of first grade math in the IDS, the pullout setting is more predominant than the mainstream setting, both in the IDS and in the current study. In addition, for the subsample of students included in the present study, a lower percent of students were in mainstream settings as compared to the IDS, especially at the first grade level. Percents for the two settings are much more similar at the third grade level.

Student Achievement Score Characteristics

Table 7 presents data on student achievement scores in grade equivalents[1] for the four study samples at the three test administrations.

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[1] Standard score means and standard deviations will be presented separately in Chapter III.

TABLE 6

COMPENSATORY EDUCATION STUDENTS BY SETTING

		MAINSTREAM		PULLOUT	
	TOTAL	F	%	F	%
First Grade Reading					
IDS	1530	347	22.7%	1183	77.3%
Follow-up Testing	395	17	4.3%	378	95.7%
First Grade Math					
IDS	694	347	50.0%	347	50.0%
Follow-up Testing	143	21	14.7%	122	85.3%
Third Grade Reading					
IDS	1658	224	13.5%	1658	86.5%
Follow-up Testing	565	64	11.3%	501	88.7%
Third Grade Math					
IDS	962	233	24.2%	729	75.8%
Follow-up Testing	314	54	17.2%	260	82.8%

TABLE 7

STUDENT ACHIEVEMENT SCORES
(Grade Equivalents)

SAMPLE	TEST ADMINISTRATION		
	FALL 1976	SPRING 1977	FALL 1977
All Students			
Reading - Grade 1	0.5	1.7	1.7
Math - Grade 1	0.6	1.7	1.7
Reading - Grade 3	2.3	3.3	3.5
Math - Grade 3	2.1	3.4	3.4
Compensatory Education Students			
Reading - Grade 1	0.4	1.6	1.6
Math - Grade 1	0.4	1.4	1.5
Reading - Grade 3	1.9	2.6	2.8
Math - Grade 3	1.7	2.9	2.9
Non-Compensatory Education Students			
Reading - Grade 1	0.7	1.7	1.8
Math - Grade 1	0.6	1.7	1.8
Reading - Grade 3	2.8	3.8	4.0
Math - Grade 3	2.3	3.6	3.6

Because the pretesting occurred during the first month of the school year and the Spring testing during the eighth month, the expected achievement levels, based on months in school, are 1.1, 1.8. and 2.1 in the first grade for the three administrations respectively, and 3.1, 3.8, and 4.1, respectively, for the third grade. Study students (all, compensatory education, and non-compensatory education) achieved at or below these expected levels in every sample.

The complete samples (all students) in the present study represent low achievers--students in each grade and subject achieved below expected achievement levels. For the three test administrations--Fall, Spring, Fall-first grade students tended to be, respectively, five months, one month, and four months below expected levels, with school year gains of approximately 1.1 grade equivalents. As might be expected, third graders were further behind--approximately nine months, five months, and six months below expected levels--for the three test administration. Their school year gains were about ten months in reading and thirteen in math.

Compensatory education students had the lowest achievement levels of the three samples, as might be expected. First graders were approximately seven months below expected levels in Fall 1976, three months below in Spring 1976 and five months below in Fall 1977. School year gains were approximately twelve months in reading and ten in math. Third graders were approximately thirteen months below in Fall 1976, eleven months below in Spring 1977, and thirteen months below in Fall 1977. School year gains were about seven months in reading and twelve in math.

Non-compensatory education students were closer to expected levels than compensatory education students. First graders were approximately four months below expectation in Fall 1976, one month below in Spring 1977, and three months below in Fall 1977, with the school year gains of about ten months in both reading and math. In Fall 1976, third grade students were three months below their expected level in reading and eight months below in math. They were at level in reading and two months below expectation in math in Spring 1977. And in Fall 1977, they were one month below their expected level in reading and five months in math.

A comparison of the Spring 1977 and Fall 1977 grade equivalents in Table 7 reveals that study students in general, tended to maintain their Spring 1977 achievement levels over the summer months. However, relative to their expected levels of achievement, definite losses were observed. The results chapter will discuss this issue in more detail.

A comparison of the data presented in Table 7 with that in Table 1 reveals that the subsample of IDS students in the Follow-up Testing Study, in many cases, have lower achievement levels than the full IDS samples. However, the differences between the two full study populations tend to be much smaller (i.e., zero or one month) in Spring 1977 than in Fall 1976. Compensatory education students in the present study, in three of the four samples, were two months below IDS compensatory education students in Spring 1977.

When school year gains are considered, differences between the IDS and present study students also emerge. For all students combined, the differences in school year gains are two, zero, three, and one month, respectively, for first grade reading, first grade math, third grade reading and third grade math. For compensatory education students, the respective differences are zero, one, one, and zero months, showing great similarity in school year gains across the two studies. For non-compensatory education students, the differences are three, zero, three and two months for the four samples.

Although differences between the two study populations do exist, school year gains for students in the current study are still greater than expected in nine of twelve groupings.

ANALYSIS STRATEGIES

Unit of Analysis

All analyses in the present study use the student, not the classroom mean, as the unit of analysis. This is done to avoid the problem of averaging means of unequal group sizes. Additional, three of the five variables to be examined--compensatory education status, setting for compensatory education, and summer program enrollment--are individual student level variables.

Methods Used to Address Study Questions

Descriptive data on standard scores and grade equivalents for the three test administrations are presented and examined, with particular focus on gains or losses for each testing interval. Results for the summer period (i.e., Spring 1977 to Fall 1977) are highlighted. In addition, achievement results for the samples of the Follow-up Testing Study are compared with two standards of program success. These standards have been used by researchers and evaluators as measures of program performance (David and Pelavin 1977).

The first of these standards is that of "month-for-month" gains. This standard, based upon the norming characteristics of standardized tests, uses the performance of the 50th percentile student as the criterion. That is, if students (particularly compensatory education students) achieve at the same rate as the median student (of the whole test-norming population), they would be considered to be performing successfully. The manner in which all standardized tests are normed, specifies that the median student will gain one month of achievement (i.e., 0.1 grade equivalent) for every calendar month of the school year and an additional month of achievement over the summer period. Therefore, for the Instructional Dimensions Study, one would expect (if month-for-month gains were achieved) a seven grade-equivalent month gain because the Fall 1976-Spring 1977 test interval was seven calendar months. Similarly, for the Follow-up Testing Study, one would expect a ten grade-equivalent month gain over the full calendar year (i.e., nine months achievement during the school year and one month over the Summer). This implies, of course, that a student achieving month-for-month gains would gain three grade-equivalent months during the Spring 1977-Fall 1977 test period.

The second standard of success for compensatory education students is the achievement of eight grade-equivalent months during a twelve calendar-month period. This eight-month standard represents a modification (David and Pelavin, 1977) of the empirically determined seven-month gain achieved by the average disadvantaged student. This second standard is less rigorous than the first because it compares observed achievement with the expected achievement of disadvantaged students, rather than with the national median for all students. In the chapter which follows, it will only be applied to compensatory education students.

Comparisons of gains, between compensatory education students and non-compensatory education students, over the summer period are also presented. Descriptive data on standard scores and grade equivalents are compared, using the procedures described above. In addition independent t-tests are computed using gain scores in standard score units. Because probabilities of Type I and Type II errors can be quite different from what one imagines them to be whenever the variances of the two populations are different and the sample sizes are not equal, heterogeneity of variance was tested (Winer, 1962). Where significant differences in variances were found, adjusted t-values and degrees of freedom were calculated (Winer, 1962). The Follow-up Testing Study uses standard scores to compute t-values because grade equivalents, due to the way they are scaled, are not appropriate for analysis in this manner. The length of the standard score scale and the large sample sizes sometimes yield statistically significant differences that would not be considered significant educationally when grade equivalents are considered.

Generally, the same procedures and standards are used to address the four ancillary analysis questions.

CHAPTER III

RESULTS

The results of the Follow-up Testing Study are presented in this chapter in three sections. The first section addresses the question of whether or not the two subgroups of IDS students maintained their school-year acheivement gains over a calendar year period. The second section addresses the question of whether there are differences in achievement gains for the summer period between compensatory education students and non-compensatory education students. The third section addresses the four ancillary analysis questions concerning differences in achievement score gains for the variables of setting, school-year gain, pretest score, and summer school participation.

MAINTENANCE OF ACHIEVEMENT

As indicated in the sample description, the Follow-up Testing Study included both compensatory and non-compensatory education students. The very nature of NIE's compensatory education study dictates that these two students subgroups be looked at separately. This section will, therefore, examine data for compensatory education students first; it will then examine the parallel data for the non-compensatory education students.

Compensatory Education Students

Achievement test score data are presented in Table 8 for the four samples of compensatory education students in the Follow-up Testing Study. Table 8 reveals that school year gains in standard scores ranged from 37 to 64, while summer period gains ranged from 0 to 9 and calendar gains, from 39 to 64. Thus, in terms of standard scores, achievement gains are identical in two samples for the school year and calendar years periods and slightly higher for the calendar year in two samples. Because students tended to gain the same amount over the two time periods, it is clear that rates of achievement growth did not continue over the summer period, although achievement level was maintained over this period. As would be expected, the grade equivalents shown in Table 8

TABLE 8

ACHIEVEMENT SCORES AND GAINS
COMPENSATORY EDUCATION STUDENTS ONLY

		Test Administation Score			Test Period Gain		
Sample	Statistic	Fall 1976	Spring 1977	Fall 1977	Fall 1976-Spring 1977	Spring 1977-Fall 1977	Fall 1976-Fall 1977
First Grade Reading	Standard Score Mean	175	239	239	64	0	64
(n=395)	(s.d.)	(26.1)	(43.1)	(NA)	(45.6)	(26.1)	(48.9)
	Grade Equivalent	0.4	1.6	1.6	1.2	0.0	1.2
First Grade Math	Standard Score Mean	200	237	239	37	2	39
(n=143)	(s.d.)	(24.4)	(31.9)	(NA)	(33.6)	(25.3)	(34.7)
	Grade Equivalent	0.4	1.4	1.5	1.0	0.1	1.1
Third Grade Reading	Standard Score Mean	280	323	332	43	9	52
(n=565)	(s.d.)	(50.2)	(54.3)	(NA)	(48.4)	(34.2)	(51.9)
	Grade Equivalent	1.9	2.6	2.8	0.7	0.2	0.9
Third Grade Math	Standard Score Mean	258	322	322	64	0	64
(n=314)	(s.d.)	(33.8)	(44.2)	(NA)	(38.4)	(29.9)	(38.2)
	Grade Equivalent	1.7	2.9	2.9	1.2	0.0	1.2

NA = Not Available

highlight the same patterns.

School year grade equivalent gains for the four samples range from 0.7 to 1.2. The third grade math students met the month-for-month standard exactly, while the three other samples exceeded the standard by three to five grade equivalent months, gains which are from 43% to 71% more than the standard. Summer period grade equivalent gains are zero for first grade reading and third grade math and 0.1 in first grade reading. Therefore, none of the samples of students met the month-for-month standard over the summer period. Calendar year gains range from 0.9 to 1.2. The third grade reading sample is one month below the month-for-month standard, while the remaining samples are 1 or 2 months above the standard, gains which are 10% to 20% above the standard. Thus, all samples met or exceeded the month-for-month standard for the school year, none met it for the summer period, and three of four exceeded it for the calendar year.

The second standard to be applied is an eight-month grade equivalent gain over the calendar year. All compensatory education samples exceeded this standard by from 0.1 to 0.4 grade equivalents. Note that the number of months by which this standard was exceeded is greater than those for the first standard, because the eight-month gain over a calendar year standard is less stringent.

In conclusion, compensatory education students in the current study tended to maintain the same achievement levels over the summer period or gain slightly. Thus, the strong rates of gain exhibited during the school year were not maintained over the summer period. Summer losses in achievement level were not exhibited for any sample, in contrast to findings of other studies of compensatory education student summer achievement.

Non-Compensatory Education Students

Table 9 contains test score data for the non-compensatory education students who participated in the Follow-up Testing Study. This table shows that school year gains in standard scores ranged from 51 to 69, while summer period gains ranged from 0 to 11, and calendar year gains, from 54 to 77. Thus, over the summer period there is a small increase

TABLE 9

ACHIEVEMENT SCORES AND GAINS
NON-COMPENSATORY EDUCATION STUDENTS ONLY

		Test Administration Score			Test Period Gain		
Sample	Statistic	Fall 1976	Spring 1977	Fall 1977	Fall 1976-Spring 1977	Spring 1977-Fall 1977	Fall 1976-Fall 1977
First Grade Reading	Standard Score Mean	194	263	271	69	8	77
	(s.d.)	(37.4)	(39.9)	(NA)	(34.3)	(21.4)	(37.7)
	Grade Equivalent	0.7	1.7	1.8	1.0	0.1	1.1
First Grade Math (n=1053)	Standard Score Mean	210	260	264	50	4	54
	(s.d.)	(27.0)	(34.1)	(NA)	(33.2)	(25.4)	(33.2)
	Grade Equivalent	0.6	1.7	1.8	1.1	0.1	1.2
Third Grade Reading	Standard Score Mean	333	382	393	51	11	62
	(s.d.)	(63.8)	(62.6)	(NA)	(43.3)	(32.5)	(46.8)
	Grade Equivalent	2.8	3.8	4.0	1.0	0.2	1.2
Third Grade Math (n=985)	Standard Score Mean	292	356	356	64	0	64
	(s.d.)	(41.4)	(45.6)	(NA)	(32.4)	(26.6)	(32.8)
	Grade Equivalent	2.3	3.6	3.6	1.3	0.0	1.3

NA = Not Available

in standard scores in three of the four samples and no change in one. As for the compensatory education students, rates of achievement growth did not continue over the summer period, although the non-compensatory education students have slightly more gain over the summer period. The grade equivalents reveal the same pattern.

School year grade equivalent gains for the four non-compensatory education samples range from 1.0 to 1.3. All samples, therefore, exceeded the month-for-month standard by three to six months, gains which are from 43% to 86% above the standard. Summer period grade equivalent gains are zero for third grade math and 0.1 or 0.2 in the other samples. Therefore, none of the non-compensatory education students samples met the month-for-month standard over the summer period. Calendar year gains range from 1.1 to 1.3. All samples also exceeded the month-for-month standard for this period, with the gains being from 10% to 30% above the standard. Thus, all samples exceeded the month-for-month standard for the school year, none did for the summer period, and all did for the calendar year.

In conclusion, non-compensatory education students in the current study tended to gain slightly in achievement level over the summer period. However, the impressive gain rates exhibited during the school year were not maintained over the summer period.

THE SUMMER PERIOD

Relevant test scores and gains (in both standard scores and grade equivalents) are reiterated in Table 10.

In first grade math, third grade reading, and third grade math, no significant differences were found in standard score gains between the two groups. There are, consequently, no grade-equivalent differences at all in the summer gains between students in the two groups for these three samples. A significant difference was observed, however, in first grade reading, where non-compensatory education students gained an average of eight standard score units over the summer and compensatory education students, zero. In terms of grade equivalents, non-compensatory

TABLE 10

ACHIEVEMENT GAIN SCORES OVER THE SUMMER PERIOD FOR COMPENSATORY AND NON-COMPENSATORY EDUCATION STUDENTS

STANDARD SCORES (GRADE EQUIVALENTS)

Sample	Statistic	Compensatory Education Students	Non-Compensatory Education Students	Calculated t Values
First Grade Reading	Number	395	760	ta=5.12** tv=4.32** d.f.=675
	Spring 1977 Mean	239 (1.6)	263 (1.7)	
	Fall 1977 Mean	239 (1.6)	271 (1.8)	
	Gain	0 (0.0)	8 (0.1)	
First Grade Math	Number	143	1053	tm=0.90 tv=0.09 d.f.=1194
	Spring 1977 Mean	237 (1.4)	260 (1.7)	
	Fall 1977 Mean	239 (1.5)	264 (1.8)	
	Gain	2 (0.1)	4 (0.1)	
Third Grade Reading	Number	565	764	tm=1.17 tv=1.26 d.f.=1327
	Spring 1977 Mean	323 (2.6)	382 (3.8)	
	Fall 1977 Mean	332 (2.8)	393 (4.0)	
	Gain	9 (0.2)	11 (0.2)	
Third Grade Math	Number	314	985	tm=0.13 tv=2.40 d.f.=1297
	Spring 1977 Mean	322 (2.9)	356 (3.6)	
	Fall 1977 Mean	322 (2.9)	356 (3.6)	
	Gain	0 (0.0)	0 (0.0)	

** $p \leq .01$ level

tv = t calculated comparing the variances of the gain scores for the two groups.
tm = t calculated comparing the mean gain scores of the two groups.
ta = t calculated comparing the mean gain scores while adjusting for heterogeneous variance.
d.f. = degrees of freedom; if ta calculated, d.f. also adjusted.

education students gained one month over the summer period, as compared to zero for compensatory education students. Therefore, in first grade reading, non-compensatory education students have a larger summer gain than compensatory education students. This difference in gain, however, is small -- only one month.

A second procedure used to look at the issue of summer gains or losses for the two groups was consideration of the number of students in each sample showing gains over the summer. Table 11 shows the frequency and percent of students with summer gains for compensatory education students and non-compensatory education students. In three of the four samples, the percent of students with gains is approximately the same for compensatory education and non-compensatory education students. In first grade reading, however, 73% of non-compensatory education students had gains over the summer, while only 55% of compensatory education students showed gains. Only in first grade reading, therefore, does there appear to be a large difference between the percent of students in the two groups who demonstrated summer achievement gains. The size of the losses encountered by those students who lost standard score units over the summer is shown in Table 12. The mean and median losses are around twenty standard score units for all four samples, with the differences observed between compensatory education and non-compensatory education students ranging from one to four standard score units. Therefore, there is very little difference in the size of summer losses between the two groups.

In summary, compensatory education and non-compensatory education students in the Follow-up Testing Study gained approximately the same amount over the summer period, with the exception of the first grade reading sample, where non-compensatory education students gained one grade-equivalent month more than compensatory education students.

ANCILLARY ANALYSES

The ancillary analysis discussions below will address the effects of four variables on the results of the study. These four issues will

TABLE 11

FREQUENCY AND PERCENT OF COMPENSATORY AND NON-COMPENSATORY EDUCATION STUDENTS WITH SUMMER ACHIEVEMENT GAINS

	STUDENTS WITH SUMMER ACHIEVEMENT GAINS			
	Compensatory Education		Non-Compensatory Education	
Sample	Frequency	Percent	Frequency	Percent
First Grade Reading	219	55.4	552	72.6
First Grade Math	90	62.9	653	62.0
Third Grade Reading	371	65.7	533	69.8
Third Grade Math	166	52.9	530	53.8

TABLE 12

SIZES OF SUMMER LOSSES

	Compensatory Education			Non-Compensatory Education		
Sample	n	Median	Mean	n	Median	Mean
First Grade Reading	395	16	21.4	760	14	17.8
First Grade Math	143	20	23.8	1053	17	20.1
Third Grade Reading	565	21	25.4	764	18	24.1
Third Grade Math	314	17	22.9	985	20	21.6

be discussed separately and will relate only to data for compensatory education students. Parallel data for non-compensatory education students, as well as standard deviations for all students, may be found in Appendix E.

Setting

Are there differences in achievement gains between compensatory education students who received their compensatory education instruction in a mainstream setting and those who received it in a pullout setting? This is the question addressed in this section. Table 13 presents standard score means for the three test administrations, as well as corresponding grade equivalents.

The number of pullout students in each sample is substantially greater than the number of mainstream students, with the largest difference occurring in first grade reading. The grade equivalent level at which students started is identical in two of the samples, with mainstream students scoring one grade-equivalent month higher than pullout students in the other two. In the four samples, the groups have approximately the same pretest achievement levels. However, there are very large differences in the number of students in the two groups and a large amount of unrepresentativeness of the proportions in the two groups, as compared to the IDS proportions for mainstream and pullout. For these two reasons, therefore, no conclusions can be validly drawn from the data. The reader is cautioned to keep this in mind if the data in Table 13 are studied.

Summer Program Participation

Are there differences in achievement gains between compensatory education students who participated in a summer instructional program and those who did not? This question may be addressed by the standard score and grade-equivalent data presented in Table 14.

As with the setting issue, the sizes of the two subgroups are quite asymmetrical. Not many compensatory education students -- 13 percent in first grade reading, 22 percent in first grade math, 4 percent in the third grade reading and 8 percent in third grade math -- participated in a

TABLE 13

ACHIEVEMENT GAIN SCORES FOR SETTING OF INSTRUCTION
COMPENSATORY EDUCATION STUDENTS ONLY

FIRST GRADE READING SAMPLE

	Standard Scores (Grade Equivalent) Setting of Instruction		
	Mainstream (n=17)	Pullout (n=378)	Calculated t values
Fall 1976 to Sring 1977			
Fall 1976 Mean	183(0.5)	175(0.4)	tm = 2.130*
Spring 1977 Mean	223(1.4)	239(1.6)	tv = 0.575
Gain Mean	40(0.9)	64(1.2)	d.f. = 393
Spring 1977 to Fall 1977			
Spring 1977 Mean	223(1.4)	239(1.6)	tm = 1.026
Fall 1977 Mean	213(1.3)	240(1.6)	tv = 2.495*
Gain Mean	-10(-0.1)	1(0.0)	d.f. = 16.5
Fall 1976 to Fall 1977			
Fall 1976 Mean	183(0.5)	175(0.4)	tm = 4.198**
Fall 1977 Mean	213(1.3)	240(1.6)	tv = 2.480*
Gain Mean	30(0.8)	65(1.2)	d.f. = 19.1

FIRST GRADE MATH SAMPLE

	Standard Scores (Grade Equivalents) Setting of Instruction		
	Mainstream (n=21)	Pullout (n=122)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	201(0.4)	200(0.4)	tm = 0.374
Spring 1977 Mean	242(1.5)	236(1.4)	tv = 1.281
Gain Mean	41(1.1)	36(1.0)	d.f. = 141
Spring 1977 to Fall 1977			
Spring 1977 Mean	242(1.5)	236(1.4)	tm = 0.166
Fall 1977 Mean	245(1.5)	238(1.4)	tv = 0.968
Gain Mean	3(0.0)	2(0.0)	d.f. = 141
Fall 1976 to Fall 1977			
Fall 1976 Mean	201(0.4)	200(0.4)	tm = 0.605
Fall 1977 Mean	245(1.5)	238(1.4)	tv = 0.891
Gain Mean	44(1.1)	38(1.0)	d.f. = 141

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*p $\leq$ .05 level
**p $\leq$ .01 level
tv = t calculated comparing variances of the gain scores for the two groups.
tm = t calculated comparing mean gain scores for the two groups.
ta = t calculated comparing mean gain scores for the two groups, while adjusting for heterogeneous variance.
d.f. = degree of freedom; if ta is calculated, d.f. is also adjusted.

TABLE 13 (cont.)

ACHIEVEMENT GAIN SCORES FOR SETTING OF INSTRUCTION

COMPENSATORY EDUCATION STUDENTS ONLY

THIRD GRADE READING SAMPLE

	Standard Scores (Grade Equivalent) Setting of Instruction		
	Mainstream (n=64)	Pullout (n=501)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	290(2.0)	279(1.9)	tm = 0.155
Spring 1977 Mean	334(2.8)	322(2.6)	tv = 0.523
Gain Mean	44(0.8)	43(0.7)	d.f. = 563
Spring 1977 to Fall 1977			
Spring 1977 Mean	334(2.8)	239(2.6)	tm = 1.099
Fall 1977 Mean	349(3.1)	331(2.8)	tv = 1.215
Gain Mean	15(0.3)	9(0.2)	d.f. = 563
Fall 1976 to Fall 1977			
Fall 1976 Mean	290(2.0)	279(1.9)	tm = 0.870
Fall 1977 Mean	349(3.1)	331(2.8)	tv = 1.832
Gain Mean	59(1.1)	52(0.9)	d.f. = 563

THIRD GRADE MATH SAMPLE

	Standard Scores (Grade Equivalent) Setting of Instruction		
	Mainstream (n=54)	Pullout (n=260)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	261(1.7)	258(1.7)	tm = 0.694
Spring 1977 Mean	321(2.9)	321(2.9)	tv = 1.700
Gain Mean	60(1.2)	63(1.2)	d.f. = 312
Spring 1977 to Fall 1977			
Spring 1977 Mean	321(2.9)	321(2.9)	tm = 2.022*
Fall 1977 Mean	314(2.8)	323(2.9)	tv = 1.586
Gain Mean	-7(-0.1)	2(0.0)	d.f. = 312
Fall 1976 to Fall 1977			
Fall 1976 Mean	261(1.7)	258(1.7)	tm = 2.466*
Fall 1977 Mean	314(2.8)	323(2.9)	tv = 0.383
Gain Mean	53(1.1)	65(1.2)	d.f. = 312

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*$p \leq 0.5$ level

**$p \leq 0.1$ level

tv = t calculated comparing variances of the gain scores for the two groups.

tm = t calculated comparing mean gain scores for the two groups.

ta = t calculated comparing mean gain scores for the two groups, while adjusting for heterogeneous variance.

d.f. = degrees of freedom; if ta is calculated, d.f. is also adjusted.

TABLE 14
ACHIEVEMENT GAIN SCORES FOR STUDENTS PARTICIPATING IN AND NOT PARTICIPATING IN SUMMER INSTRUCTIONAL PROGRAMS

COMPENSATORY EDUCATION STUDENTS ONLY

FIRST GRADE READING SAMPLE

	Standard Scores (Grade Equivalents)		
	Summer Program		
	Participating (n=52)	Not Participating (n=343)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	173 (0.3)	175 (0.4)	tm = 3.583**
Spring 1977 Mean	216 (1.3)	242 (1.6)	tv = 0.488
Gain Mean	43 (1.0)	67 (1.2)	d.f. = 393
Spring 1977 to Fall 1977			
Spring 1977 Mean	216 (1.3)	242 (1.6)	tm = 1.288
Fall 1977 Mean	221 (1.4)	242 (1.6)	tv = 0.036
Gain Mean	5 (0.1)	0 (0.0)	d.f. = 393
Fall 1976 to Fall 1977			
Fall 1976 Mean	173 (0.3)	175 (0.4)	tm = 2.624**
Fall 1977 Mean	221 (1.4)	242 (1.6)	tv = 0.957
Gain Mean	48 (1.1)	67 (1.2)	d.f. = 393

FIRST GRADE MATH SAMPLE

	Standard Scores (Grade Equivalents)		
	Summer Program		
	Participating (n=32)	Not Participating (n=111)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	202 (0.4)	200 (0.4)	tm = 0.883
Spring 1977 Mean	234 (1.4)	238 (1.4)	tv = 0.148
Gain Mean	32 (1.0)	38 (1.0)	d.f. = 141
Spring 1977 to Fall 1977			
Spring 1977 Mean	234 (1.4)	238 (1.4)	tm = 0.584
Fall 1977 Mean	234 (1.4)	241 (1.5)	tv = 1.156
Gain Mean	0 (0.0)	3 (0.1)	d.f. = 141
Fall 1976 to Fall 1977			
Fall 1976 Mean	202 (0.4)	200 (0.4)	tm = 1.430
Fall 1977 Mean	234 (1.4)	241 (1.5)	tv = 0.000
Gain Mean	32 (1.0)	41 (1.1)	d.f. = 141

*p$\leq$.05 level

** $\leq$.01 level

tv = t calculated comparing variances of the gain scores for the two groups.

tm = t calculated comparing mean gain scores for the two groups.

ta = t calculated comparing mean gain scores for the two groups, while adjusting for heterogeneous variance.

d.f. = degress of freedom; if ta is calculated, d.f. is also adjusted.

TABLE 14 (cont.)
ACHIEVEMENT GAIN SCORES FOR STUDENTS PARTICIPATING IN AND NOT PARTICIPATING IN SUMMER INSTRUCTIONAL PROGRAMS

COMPENSATORY EDUCATION STUDENTS ONLY

THIRD GRADE READING SAMPLE

	Standard Scores (Grade Equivalents)		
	Summer Program		
	Participating (n=21)	Not Participating (n-544)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	272 (1.8)	281 (1.9)	tm = 0.093
Spring 1977 Mean	315 (2.4)	324 (2.6)	tv = 1.135
Gain Mean	43 (0.6)	43 (0.7)	d.f. = 573
Spring 1977 to Fall 1977			
Spring 1977 Mean	315 (2.4)	324 (2.6)	tm = 1.710
Fall 1977 Mean	312 (2.3)	334 (2.8)	tv = 0.958
Gain Mean	-3 (-0.1)	10 (0.2)	d.f. = 573
Fall 1976 to Fall 1977			
Fall 1976 Mean	272 (1.8)	281 (1.9)	tm = 1.212
Fall 1977 Mean	312 (2.3)	334 (2.8)	tv = 0.137
Gain Mean	40 (0.5)	53 (0.9)	d.f. = 573

THIRD GRADE MATH SAMPLE

	Standard Scores (Grade Equivalents)		
	Summer Program		
	Participating (n=26)	Not Participating (n=288)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	254 (1.6)	258 (1.7)	tm = 0.761
Spring 1977 Mean	323 (2.9)	321 (2.9)	tv = 0.072
Gain Mean	69 (1.3)	63 (1.2)	d.f. = 312
Spring 1977 to Fall 1977			
Spring 1977 Mean	323 (2.9)	321 (2.9)	tm = 1.469
Fall 1977 Mean	315 (2.8)	322 (2.9)	tv = 0.069
Gaim Mean	-8 (-0.1)	1 (0.0)	d.f. = 312
Fall 1976 to Fall 1977			
Fall 1976 Mean	254 (1.6)	258 (1.7)	tm = 0.510
Fall 1977 Mean	315 (2.8)	322 (2.9)	tv = 0.476
Gain Mean	61 (1.2)	64 (1.2)	d.f. = 312

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*$p \leq .05$ level

**$p \leq .01$ level

tv = t calculated comparing the gain scores for the two groups.

tm = t calculated comparing mean gain scores for the two groups.

ta = t calculated comparing mean gain scores for the two groups, while adjusting for heterogeneous variance.

d.f. = degrees of freedom; if ta is calculated, d.f. is also adjusted.

summer instructional program in reading or math. Because of these limited numbers of students, especially in the third grade, the results reported here should be viewed with caution.

For three of the four samples (i.e., first grade reading, first grade math, and third grade math), both school and calendar year gains were at least 1.0 grade equivalent for both summer school participants and non-participants. In third grade reading, the calendar year gains were five and nine months, respectively, for summer school participants and non-participants.

Only in first grade reading were significant differences in standard score units observed between compensatory education students who participated in summer programs and those who did not. Both school and calendar year gain differences were significant (at the .01 level), with non-participants in summer programs showing greater gains. The differences are two grade-equivalent months for the school year and one grade-equivalent month for the calendar year.

In conclusion, summer school participation for compensatory education students does not appear to influence achievement gains.

Pretest Achievement Level

Are there achievement differences between compensatory education students who scored at or above the national norm (i.e., 50th percentile) on the pretest (Fall 1976) and those scoring below the national norm? Table 15 contains achievement data, both standard scores and grade equivalents, by which this question may be addressed.

As might be expected, few designated compensatory education students achieved at or above the 50% percentile on the pretest. At the first grade level, 11% and 15% of the compensatory education students, in reading and math respectively, scored at or above the national norm. In the third grade the reading and math figures are even lower -- 8% and 3%, respectively. At first glance, it may appear strange that any compensatory education students in the study would be above the 50th percentile on the pretest, given that compensatory education students are generally designated

TABLE 15
ACHIEVEMENT GAIN SCORES FOR RELATIONSHIP OF STUDENT PRETEST SCORE TO THE NATIONAL NORM FOR THE PRETEST

Compensatory Education Students Only

FIRST GRADE READING SAMPLE

	Standard Scores (Grade Equivalents) Relationship to the National Norm		
Test Periods	At or Above the National Norm (n=40)	Below the National Norm (n=355)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	226 (1.5)	169 (0.3)	ta = 2.487*
Spring 1977 Mean	256 (1.7)	237 (1.5)	tv = 5.306**
Gain Mean	30 (0.2)	68 (1.2)	d.f. = 53.2
Spring 1977 to Fall 1977			
Spring 1977 Mean	256 (1.7)	237 (1.5)	ta = .2249
Fall 1977 Mean	256 (1.7)	237 (1.5)	tv = 5.814**
Gain Mean	0 (0.0)	0 (0.0)	d.f. = 52.6
Fall 1976 to Fall 1977			
Fall 1976 Mean	226 (1.5)	169 (0.3)	ta = 2.388*
Fall 1977 Mean	256 (1.7)	237 (1.5)	tv = 5.153**
Gain Mean	30 (0.2)	68 (1.2)	d.f. = 53.5

FIRST GRADE MATH SAMPLE

	Standard Scores (Grade Equivalents) Relationship to the National Norm		
	At or Above the National Norm (n=21)	Below the National Norm (n=122)	Calculated t values
Fall 1976 to Spring 1977			
FAll 1976 Mean	233 (1.4)	194 (0.3)	ta = 1.356
Spring 1977 Mean	257 (1.7)	234 (1.4)	tv = 5.358**
Gain Mean	24 (0.3)	40 (1.1)	d.f. = 52.6
Spring 1977 to Fall 1977			
Spring 1977 Mean	257 (1.7)	234 (1.4)	ta = .127
Fall 1977 Mean	263 (1.8)	236 (1.4)	tv = 4.189**
Gain Mean	6 (0.1)	2 (0.0)	d.f. = 57.5
Fall 1976 to Fall 1977			
Fall 1976 Mean	233 (1.4)	194 (0.3)	ta = 1.358
Fall 1977 Mean	263 (1.8)	236 (1.4)	tv = 5.082**
Gain Mean	30 (0.4)	42 (1.1)	d.f. = 53.6

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*$p \leq .05$ level

**$p \leq .01$ level

tv = t calculated comparing variances of the gain scores for the two groups.

tm = t calculated comparing mean gain scores for the two groups.

ta = t calculated comparing mean gain scores for the two groups, while adjusting for heterogeneous variance.

d.f. = degrees of freedom; if ta is calculated, d.f. is also adjusted.

TABLE 15 (cont.)
ACHIEVEMENT GAIN SCORES FOR RELATIONSHIP OF STUDENT PRETEST SCORE TO THE NATIONAL NORM FOR THE PRETEST

Compensatory Education Students Only

THIRD GRADE READING SAMPLE

	Standard Scores (Grade Equilavents) Relationship to the National Norm At or Above the National Norm (n=48)	Below the National Norm (n=517)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	391 (4.0)	270 (1.8)	ta = 0.503
Spring 1977 Mean	429 (4.9)	314 (2.4)	tv = 5.166**
Gain Mean	38 (0.9)	44 (0.6)	d.f. = 54.6
Spring 1977 to Fall 1977			
Spring 1977 Mean	429 (4.9)	314 (2.4)	ta = 0.701
Fall 1977 Mean	447 (5.4)	323 (2.6)	tv = 5.958**
Gain Mean	18 (0.5)	9 (0.2)	d.f. = 53.9
Fall 1976 to Fall 1977			
Fall 1976 Mean	391 (4.0)	270 (1.8)	ta = 0.144
Fall 1977 Mean	447 (5.4)	323 (2.6)	tv = 4.792**
Gain Mean	56 (1.4)	53 (0.8)	d.f. = 55.0

THIRD GRADE MATH SAMPLE

	Standard Scores (Grade Equivalents) Relationship to the National Norm At or Above the National Norm (n=8)	Below the National Norm (n=306)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	355 (3.5)	256 (1.7)	ta = 1.907
Spring 1977 Mean	393 (4.6)	320 (2.9)	tv = 1.608
Gain Mean	38 (1.1)	64 (1.2)	d.f.= 312
Spring 1977 to Fall 1977			
Spring 1977 Mean	393 (4.6)	320 (2.9)	ta = 0.544
Fall 1977 Mean	396 (4.7)	320 (2.9)	tv = 3.936**
Gain Mean	3 (0.1)	0 (0.0)	d.f. = 8.6
Fall 1976 to Fall 1977			
Fall 1976 Mean	355 (3.5)	256 (1.7)	ta = 1.765
Fall 1977 Mean	396 (4.7)	320 (2.9)	tv = 1.250
Gain Mean	41 (1.2)	64 (1.2)	d.f. = 312

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*$p \leq .05$ level
**$p \leq .01$ level
tv = t calculated comparing variances of the gain scores for the two groups.
tm = t calculated comparing mean gain scores for the two groups.
ta = t calculated comparing mean gain scores for the two groups, while adjusting for heterogeneous variance.
d.f. = degrees of freedom; if ta is calculated, d.f. is also adjusted.

low achievers. However, school districts vary in the specific achievement tests used to assign students, in the nature of other criteria used (such as teacher judgment), and in the cut-off scores used to establish participation. If a district used a test which was normed with a substantially different population than the CTBS, a student could score at different percentiles on the tests. If teacher judgment were used as one criterion, teachers could have had very strict standards for establishing average or above achievement. If a district were to use the 50th percentile as a cut-off, chance fluctuations in testing performance could also cause students to score above the 50th percentile on the CTBS and below it on the district test. The standard error of measurement for the CTBS itself can also account for some students scoring over the 50th percentile. Thus, it is possible for some compensatory education students to score the national median, as demonstrated in this study.

In three of the four samples (i.e., first grade reading, first grade math, and third grade math), the low (i.e., below the 50th percentile) achieving compensatory education students had school and calendar year gains of at least 1.0 grade equivalent. In third grade reading, however, low achievers demonstrated a school year gain of only six grade-equivalent months and a calendar year gain of eight grade--equivalent months. In each of the four samples, compensatory education students initially achieving below the national norm demonstrated larger school year gains, as measured by standard scores, than did compensatory education students initially achieving above the national norm (although, in third grade reading, they showed a lower-grade equivalent gain). Only in first grade reading, however, were the differences statistically significant at the .05 level. These observed gains are not, however, large enough to completely offset the large initial differences in achievement scores.

Over the summer period, no clear differences between the two subgroups are apparent. Except for third grade reading, summer gains for both high and low initial achievers were positive and small (i.e., between zero and three standard score units) with those initially achieving above the national norm showing larger gains. In third grade reading, the high and low initial achievers showed summer gains of five and two grade-equivalent months, respectively.[1]

School Year Gain

Are there difference in achievement between compensatory education students who showed better than average (above the sample mean) school year gains and those displaying below average gains? This question may be addressed using the standard score and grade-equivalent data in Table 16 for compensatory education students achieving above (high gainers) and below (low gainers) the sample means.

In three of the four samples (i.e., first grade reading, first grade math, and third grade math), the high gainers demonstrated small summer gains in all four samples, with larger gains apparent at the third grade level. This pattern of summer achievement, however, represents such small summer gains that, over the calendar year, high gainers show calendar year gains of between 1.4 and 1.6 grade equivalents, while low gainers show calendar year gains of between .5 and .6 grade equivalents. .

As would be expected, all four samples displayed significant (at the .01 level) differences between high and low gainers for the school year interval. This is an obvious result of the procedure used to assign students to groups, and thus is an uninteresting finding. Over the summer period, only the third grade math sample showed a significantly (at the .05 level) different achievement gain, with low school year gainers out-performing the high school year gainers by 19 standard score units and four grade-equivalent months. In the other three samples, the low gainers also out-performed the high gainers during the summer period, but no differences were significant.

Over the calendar year, the school year gains of the high gainers far outweigh the summer gains of the low gainers. The high gainers, in all four samples, show significantly (at the .01 level) larger calendar year gains than the low gainers.

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[1] A comparison of low achieving compensatory education students and high achieving non-compensatory education students yields substantial differences only in third grade reading where the high achieving non-compensatory students showed a six grade-equivalent months summer gain versus two months for low achieving compensatory education students.

TABLE 16
ACHIEVEMENT GAIN SCORES IN RELATION TO THE SAMPLE MEAN GAIN FOR THE PRETEST-POSTTEST PERIOD

Compensatory Education Students Only

FIRST GRADE READING SAMPLE

	Standard Scores (Grade Equivalents) Relationships to the Sample Mean Gain		
	At or Above the Sample Mean (n=203)	Below the Sample Mean (n-192)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	168 (0.3)	183 (0.5)	ta= .953**
Spring 1977	267 (1.8)	209 (1.2)	tv= 13.538**
Gain Mean	99 (1.5)	26 (0.7)	d.f. = 238.7
Spring 1977 to Fall 1977			
Spring 1977 Mean	267 (1.8)	209 (1.2)	ta= .547
Fall 1977 Mean	266 (1.8)	212 (1.3)	tv = 13.792**
Gain Mean	-1 (0.0)	3 (0.1)	d.f. = 236.1
Fall 1976 to Fall 1977			
Fall 1976 Mean	168 (0.3)	183 (0.5)	ta= 9.080**
Fall 1977 Mean	266 (1.8)	212 (1.3)	tv= 11.999**
Gain Mean	98 (1.5)	29 (0.8)	d.f. = 256.6

FIRST GRADE MATH SAMPLE

	Standard Scores (Grade Equivalents) Relationship to the Sample Mean Gain		
	At or Above the Sample Mean (n=48)	Below the Sample Mean (n=95)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	189 (0.2)	206 (0.5)	ta= 8.576**
Spring 1977 Mean	262 (1.8)	224 (1.2)	tv= r.107**
Gain Mean	73 (1.6)	18 (0.7)	d.f. = 61.7
Spring 1977 to Fall 1977			
Spring 1977 Mean	262 (1.8)	224 (1.2)	ta= 1.163
Fall 1977 Mean	258 (1.7)	230 (1.3)	tv= 5.240**
Gain Mean	-4 (0.1)	6 (0.1)	d.f. = 56.3
Fall 1976 to Fall 1977			
Fall 1976 Mean	189 (0.2)	206 (0.5)	ta= r.653**
Fall 1977 Mean	258 (1.7)	230 (1.3)	tv= t.108**
Gain Mean	69 (1.5)	24 (0.8)	d.f. = 56.8

*p≤ .05 level
**p≤ .01 level
tv = t calculated comparing variances of the gain for the two groups.
tm = t calculated comparing mean gain scores for the two groups.
ta = t calculated comparing mean gain scores for the two groups, while adjusting for heterogeneous variance.
d.f. = degrees of freedom; if ta is calculated, d.f. is also adjusted.

TABLE 16 (cont.)

ACHIEVEMENT GAIN SCORES IN RELATION TO THE SAMPLE MEAN GAIN FOR THE PRETEST-POSTTEST PERIOD

Compensatory Education Students Only

THIRD GRADE READING SAMPLE

	Standard Scores (Grade Equivalents) Relationship to the Sample Mean Gain		
	At or Above the Sample Mean (n=245)	Below the Sample Mean (n=320)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	264 (1.8)	292 (2.0)	ta = 11.542**
Spring 1977	350 (3.1)	303 (2.2)	tv = 15.294**
Gain Mean	86 (1.3)	11 (0.2)	d.f. = 274.5
Spring 1977 to Fall 1977			
Spring 1977 Mean	350 (3.1)	303 (2.2)	ta = 1.945
Fall 1977 Mean	352 (3.2)	318 (2.5)	tv = 13.677**
Gain Mean	2 (0.1)	15 (0.3)	d.f. = 290.2
Fall 1976 to Fall 1977			
Fall 1976 Mean	264 (1.8)	292 (2.0)	ta = 9.300**
Fall 1977 Mean	352 (3.2)	318 (2.5)	tv = 12.412
Gain Mean	88 (1.4)	26 (0.5)	d.f. = 304.8

THIRD GRADE MATH SAMPLE

	Standard Scores (Grade Equivalents) Relationship to the Sample Mean Gain		
	At or Above the Sample Mean (n=159)	Below the Sample Mean (n=155)	Calculated t values
Fall 1976 to Spring 1977			
Fall 1976 Mean	253 (1.6)	263 (1.8)	ta = 7.971**
Spring 1976 Mean	347 (3.4)	296 (2.4)	tv = 10.760**
Gain Mean	94 (1.8)	33 (0.6)	d.f. = 181.6
Spring 1977 to Fall 1977			
Spring 1977 Mean	347 (3.4)	296 (2.4)	ta = 2.291*
Fall 1977 Mean	338 (3.2)	306 (2.6)	tv = 11.854**
Gain Mean	-9 (0.2)	10 (0.2)	d.f. = 197.3
Fall 1976 to Fall 1977			
Fall 1976 Mean	253 (1.6)	263 (1.8)	ta = 4.887**
Fall 1977 Mean	338 (3.2)	306 (2.6)	tv = 11.063**
Gain Mean	85 (1.6)	43 (0.8)	d.f. = 195.1

---

*p $\leq$.05 level

**p $\leq$.01 level

tv = t calculated comparing variances of the gain scores for the two groups.

tm = t calculated comparing mean gain scores for the two groups.

ta = t calculated comparing mean gain scores for the two groups, while adjusting for heterogeneous variance.

d.f. = degrees of freedom; if ta is calculated, d.f. is also adjusted.

CHAPTER IV

SUMMARY AND CONCLUSIONS

In this report, we have extended to a full twelve-month period achievement results gathered for the International Dimensions Study during the 1976-77 school year. By taking a more longitudinal view, we have been able to draw some general conclusions about the extent to which the greater than expected achievement gains demonstrated by IDS students, and especially by compensatory education students, during the school year are sustained over the summer period which follows.

Few longitudinal studies of achievement gains for disadvantaged students exist. In the David and Pelavin study (1977) referenced earlier, an analysis of longitudinal data from four school districts was conducted. In three of the four districts, school year gains were followed by losses over the summer. In the fourth, there was no actual summer loss in achievement level, but a loss of rate of achievement was found. Because of this phenomenon, students participating in compensatory education programs can show impressive gains over the school year, only to drop in achievement level over the summer months, resulting in very different conclusions about program effectiveness, depending upon the analysis period considered.

Very impressive gains were exhibited in the IDS study for both subgroups -- compensatory education and noncompensatory education students. In each group, gains were at least one month for each month of the testing interval. When the interval over which gains are considered is extended to a calendar year, no evidence of a drop in achievement level (in grade equivalents) over the summer was found.

Compensatory education students in the current study gained from seven to twelve grade-equivalent months during the school year, gains that were considerably greater than the month-for-month standard. For the calendar year, compensatory education students gained from nine to twelve grade-equivalent months. For this period, three of the four samples met or exceeded the month-for-month standard and all four exceeded the eight-month standard. No evidence of a summer dropoff in achievement level of compensatory education students was found in the current study. These compensatory education students did not, however, maintain their impressive rates of gain over the full calendar year period. While calendar year gains were less impressive than the school year gains, the conclusion about the greater effectiveness of IDS compensatory education programs is still valid, given the comparisons with the two standards.

Non-compensatory education students tended to gain slightly in achievement level over the summer. However, because the month-for-month standard over this period is three grade-equivalent months, these students did not maintain the high rates of gain exhibited during the school year over the summer period, although all samples still exceeded the month-for-month standard over the calendar year.

A second question investigated in the current study was whether or not there were differences in summer gains between compensatory education and non-compensatory education students. In three of the four samples, no significant differences in standard score gains were found over the summer. A significant difference was found in first grade reading, where compensatory education students gained one month less than non-compensatory education students. Thus even though compensatory education students were lower achievers, as compared to non-compensatory students, they tended to gain about the same amount over the summer period. In addition, the percent of students showing standard score gains over the summer was very similar for the two groups, as was the size of the losses encountered by students who did suffer summer achievement dropoffs.

For compensatory education students, the study also investigated whether there were differences in achievement gains between students dichotomously assigned on the basis of setting, pretest achievement level, school year gain, and summer program participation. For all but the third variable, group sizes are so different that the drawing of conclusions based on the data seems unwarranted. For the third variable, the study showed that compensatory education students who achieved below average gains during the school year tended to outperform the high gainers during the summer months. These low gainers still, however, were far below their high-achieving peers on a calendar year basis.

The findings of this study differ from those of other assessments of the summer performance of compensatory education students. Contrarily to the results of the David and Pelavin study (1977), such students in the Follow-up Testing Study evidenced no loss in absolute achievement levels over the summer period. This study does, however, concur with the David and Pelavin (1977) conclusion that measures of program effectiveness are influenced by the time period over which the program is judged. The inclusion of the summer months in the present study reduced the impressiveness of the gains exhibited by both compensatory education and non-compensatory education students.

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APPENDICES

APPENDIX A

DESCRIPTION OF INSTRUCTIONAL DIMENSIONS STUDY PURPOSES, METHODS, AND FINDINGS[1]

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[1] Based on the following report:

Brady, M.E.; Clinton, C.; Sweeney, J.M.; Peterson, M.; Poynor, H. *Study Findings, Final Report of the Instructional Dimensions Study, 1976-1977.* (Contract No. NIE 400-76-0060, National Institute of Education, Educational Equity Group, Compensatory Education Division.) Washington, D.C.: Kirschner Associates, Inc., and Education TURNKEY Systems, Inc., 1977.

Comprehensive editing and reanalyses of all data collected for the IDS are currently in progress. Further reports will, thus, be available in 1978 on this data base.

Purposes

Because of the specific interest of the U.S. Congress in instructional effectiveness, NIE was requested to conduct a study which would include: "an analysis of the effectiveness of methods and procedures for meeting the educational needs of children, including the use of individualized written education plans for children..." (P.L. 93-380). Recognizing the complexities inherent in a study of the effectiveness of individualized programs, NIE solicited design submissions from four contractors. The contractors were directed to design a study to assess the effectiveness of individualized instruction as practiced in compensatory education programs in public schools. The design submitted by the Learning Research and Development Center (LRDC) was designated by NIE as that to be used as the basis for the present Study.

The Instructional Dimensions Study was a one-year field study of the effects of instructional practices and teacher characteristics on student achievement in and attitudes toward reading and math at the first and third grade levels. The major focuses of the Study were as follows:

- The effects of individualized instructional practices;
- The effects of instructional settings;
- The relationships of opportunity to learn, motivators, instructional events, teacher background, and costs with posttest achievement and attitudes.

The time available for analysis of the data did not allow for analytical work beyond the direct investigation of the simple effects of the Study Model elements, dimensions, and cost.

Method

A purposive sample of classrooms was selected for the Study in order to obtain variation on degree of individualization, setting for compensatory education instruction, and neighborhood economic status. All classrooms in the Study were participants in a continuing program of instruction. That is, the instructional program at the school had been in operation at least one year prior to the Study, and regular classroom teachers had at least one year of experience teaching in the program. Reading and math were selected as the subject areas of interest because they are the subjects most commonly supported by compensatory education funds. The first grade was selected in order to assess the effects of instructional practices as early as possible, and because it is a critical year for beginning reading. The third grade was selected to provide a basis of comparison.

Achievement tests and attitude scales were administered in the fall of 1976 and in the spring of 1977 to approximately 5,000 first grade students and 5,000 third grade students. The majority of the compensatory education students in the Study were in Title I programs, with some students participating in other compensatory education programs, such as the Emergency School Aid Act and State compensatory education programs. Fall and spring interviews were conducted with approximately 200 first grade reading and math teachers, 200 third grade reading and math teachers, and 300 compensatory education teachers serving first and third grade Study students. The majority of regular classroom teachers at a grade level taught both reading and math to Study students. Teachers assisted in the completion of various fact sheets designed to provide more detailed information on instructional practices and on the activities of students. In addition, videotapes of reading and math instruction were made of 275 regular classroom teachers and 200 compensatory education teachers (subsamples of the total). Information on program characteristics was collected from principals in the 100 participating school buildings and from program administrators in each of the 14 school districts participating in the Study.

For analysis purposes, the sample was reduced to 103 first grade reading, 92 first grade math, 98 third grade reading, 109 third grade math, and a total of 174 compensatory education teachers. This occurred primarily because of the reduced sample for videotaping, classrooms dropped (due to invalid pretest scores) from the Study, and missing teacher data. The analysis sample was drawn from 90 school buildings in the 14 participating school districts. Approximately 2,000 first grade and 2,300 third grade students were included in the analysis sample classrooms. Inspection of the means and standard deviations for randomly selected measures and for achievement scores suggested that the total sample and the analysis sample had highly similar characteristics.

The Study organized the data in a hierarchy, using *measures* (or single variables) to form 18 *dimensions*, and these, in turn, to form 5 Study Model *elements*, based on the design developed by the Learning Research and Development Center. The five elements were Opportunity, Motivators, Individualization, Instructional Events, and Teacher Background. Classroom instruction was defined in terms of the procedures used to place the student in the curriculum and to manage her/his progress through the material (Individualization), the patterns of management, cognitive teaching styles and teacher interactive behaviors (Instructional Events), the training and experience of the teachers (Teacher Background), and the factors affecting the student's access to (Opportunity) and inclination to learn (Motivators) the instructional material. Instructional Setting was used as a blocking variable in order to assess the effects of the Study Model elements in different settings. Information was also collected on Costs, District Services, and compensatory education program Eligibility/Participation.

The unit of analysis was an instructional unit, generally a subaggregate of a classroom. Within a classroom, students who did not receive separate compensatory education instruction were assigned to Regular units. Students who received regular and compensatory education instruction were assigned to Pullout units. The data from the two teachers per Pullout unit were weighted, based upon duration of instruction, and averaged. Analysis samples consisted of the Full sample (all units) and two subsamples--Pullout and Regular.

Commonality analyses were used to identify the unique and in-common portions of variation associated with the Study Model and initial performance and with each of the five elements. The criteria were raw score means in achievement and attitude in reading and math, with initial performance variables consisting of means and standard deviations from the pretest.

Two procedures were used to group predictors into sets. In the first procedure, the 18 Study Model dimensions were grouped into one set and the two initial performance measures into a second set in order to answer the following research question:

- How much of the variation in the criterion can be uniquely apportioned to the Instructional Dimensions Study Model and to initial performance, and how much is common to both?

In the second procedure, the Study Model dimensions were grouped into five sets, equivalent to the elements of the Study Model, with the sixth set again being the initial performance set, in order to answer the following research question:

- How much of the predictable variation in the criterion can be uniquely apportioned to the five Study Model elements and to initial performance, and how much is common to them?

For the achievement results, the importance of dimensions within elements was investigated by computing the predicted raw score differences in posttest achievement for a one unit larger value of each dimension. For a particular dimension, the predicted difference was determined by multiplying the *b* weight from the sample regression equation by the standard deviation of the dimension for the particular sample of interest. The research question addressed by these computations was:

- For elements that are significant as unique sources, which of the dimensions within the element appear to be the most important?

For the investigations of cost, statistical procedures were employed to test the significance of the differences in cost. Zero-order correlations between cost variables and achievement (with pretest means partialled out) were used to establish the relationships between the cost variables and achievement, and cost and the Study Model dimensions.

Findings

Table A-1 reports percentile ranks and grade equivalents for the pretest and posttest achievement raw scores. (Scores were obtained by averaging individual student scores per instructional unit and then averaging instructional unit means per sample.) Pullout students in first grade reading and in third grade reading and math tended to achieve at a rate higher than that expected, according to the national norms of the test used. Regular students achieved at a rate higher than expected for math in the first and third grades. In general, study students tended to be further below the national norms of the test at pretesting as compared to posttesting, third grade students were further below the national norms of the test than first grade students, and students tended to score lower in math than in reading. The expected gain in grade equivalents was 0.7, based upon months between testing times. All study samples, with the exception of Pullout third grade math, gained greater than this amount.

Study students expressed a liking for most aspects of reading/language arts and math activities at the time of pretesting, and, on the average, gained very slightly in their attitude scores. This was true for both compensatory and noncompensatory education students.

To determine the national representativeness of the Study sample, selected characteristics of the compensatory education programs of the school districts participating in the present Study were compared with the information collected by the NIE National Survey of Compensatory Education. The Study sample contained 14 school districts, 100% of which received Title I funds (vs. 90% nationally) and in which 80% of eligible students were served (vs. 66% nationally). For the compensatory education teachers in the Study, 44% had a master's degree (vs. 30% nationally). Average class size of the compensatory education classes was comparable, as was the percent of instructional time during the school day that was devoted to compensatory education in math, with students in the current Study having a slightly lower percent of time for reading.

TABLE A-1

PRETEST AND POSTTEST ACHIEVEMENT PERCENTILE RANKS AND GRADE EQUIVALENTS[1] FOR THE PULLOUT, REGULAR AND FULL SAMPLES IN THE FOUR SUBSTUDIES

	First Grade Reading			First Grade Math		
	Pullout (N=87)	Regular (N=94)	Full (N=181)	Pullout (N=21)	Regular (N=91)	Full (N=112)
retest Percentile	26	48	37	24	39	33
Grade Equivalent	0.4	1.0	0.6	0.4	0.7	0.6
osttest Percentile	40	53	47	27	56	51
Grade Equivalent	1.7	1.8	1.7	1.4	1.8	1.7

	Third Grade Reading			Third Grade Math		
	Pullout (N=89)	Regular (N=89)	Full (N=178)	Pullout (N=46)	Regular (N=108)	Full (N=154)
retest Percentile	16	44	31	7	26	20
Grade Equivalent	1.9	2.9	2.4	1.8	2.5	2.3
osttest Percentile	24	45	34	23	44	40
Grade Equivalent	2.7	3.5	3.1	2.9	3.5	3.4

The first grade test at both testing times was the *Comprehensive Test of Basic* *ills, Level B, Forms* (CTB/McGraw-Hill, 1973,1974). The third grade test was the *mprehensive Test of Basic Skills, Level 1, with Forms* (CTB, McGraw-Hill, 1973,1974) ing used for pretesting and *Form T* (CTB, McGraw-Hill, 1975) for posttesting.

The results of the commonality analyses with achievement as the criterion for the four substudies and for the samples within a substudy are displayed in Table A-2. These analyses address the first research question and, therefore, identify the amount of variation uniquely associated with the Study Model as a whole and with initial ahcievement, as well as the amount common to both.

The results of the commality analyses addressing the second research question, that is, the separate effects of the five Study Model elements and initial achievement, are displayed in Table A-3, for the first grade and in Table A-4, for the third grade.

According to the results of the current Study, the following summary statements can be made:

- For compensatory education students in reading, instructional environment is more important than initial achievement level in the first grade, but in the third grade they are approximately equal in importance.
- For the noncompensatory education students in reading, instructional environment is more important than initial achievement level in the first grade, but in the third grade initial achievement level is much more important.
- For all students, instructional environment and initial achievement together have a higher relationship with posttest achievement in the third grade as compared to the first grade.
- The relationships between instructional environment and posttest achievement are more affected by grade level than by subject area.
- For first grade students, regardless of their initial achievement levels, opportunity to lean is the most important predictor of reading and math achievement.
- For first grade noncompensatory education students, Individualization, as measured in the current Study, is an important predictor of math achievement.
- In the third grade, Individualization, as measured in the current Study, is the most important predictor of achievement, especially for compensatory education students in reading. Its importance at this grade level, however, varied by subject and student initial achievement level.

TABLE A-2
UNIQUE AND COMMON SOURCES OF VARIATION FOR THE STUDY MODEL AND INITIAL ACHIEVEMENT FOR THE PULLOUT, REGULAR AND FULL SAMPLES IN THE FOUR SUBSTUDIES

	First Grade Reading			First Grade Math		
	Pullout (N-87)	Regular (N-94)	Full (N-181)	Pullout[1] (N-21)	Regular (N-91)	Full (N-112)
Total Unique to Study Model	.256●	.260*	.130**		.314**	.197*
Total Unique to Initial Achievement	.097**	.080**	.189***		.103**	.177***
Total in Common	.065	.134	.123		.094	.068
Total RSQ	.418**	.474***	.443***		.511***	.441***

	Third Grade Reading			Third Grade Math		
	Pullout (N-89)	Regular (N-89)	Full (N-178)	Pullout[2] (N-46)	Regular (N-108)	Full (N-154)
Total Unique to Study Model	.163●	.066	.051*	.327	.099●	.077*
Total Unique to Initial Achievement	.200***	.419***	.445***	.096●	.380***	.420***
Total in Common	.257	.277	.275	.204	.240	.224
Total RSQ	.619***	.762***	.770***	.627*	.719***	.721***

● p< .10

* p< .05

** p< .01

*** p< .001

[1] No results are presented for the first grade math Pullout sample because the number of instructional units (N-21) was too small to analyze.

[2] For the third grade math Pullout sample, results may be unreliable due to the small sample size (N-46) as compared to the number of predictors (20).

TABLE A-3

UNIQUE AND COMMON SOURCES OF VARIATION FOR THE STUDY MODEL ELEMENTS AND INITIAL ACHIEVEMENT FOR THE PULLOUT, REGULAR AND FULL SAMPLES IN THE FIRST GRADE

	First Grade Reading			First Grade Math		
Unique Sources	Pullout (N=87)	Regular (N=94)	Full (N=181)	Pullout[1] (N=21)	Regular (N=91	Full (N=112)
Opportunity	.075*	.066*	.048*		.071**	.084**
Motivators	.009	.016	.009		.013	.012
Instructional Events	.005	.046	.014		.097*	.040
Individualization	.087	.024	.016		.111*	.042
Teacher Background	.010	.043	.007		.019	.009
Initial Achievement	.097**	.080**	.189***		.103**	.177***
Common Sources[2]						
Opportunity and Motivators	.027					
Opportunity and Instructional Events		.023				
Opportunity and Individualization		.021			.034	
Opportunity and Initial Achievement	.067	.039	.055		.028	.047
Instructional Events and Individualization					.030	
Instructional Events and Initial Achievement	.024		.024			
Individualization and Initial Achievement		.047	.031		.031	.040
Opportunity, Individualization, and Initial Achievement		.020				

• p<.10

* p<.05

** p<.01

*** p<.001

[1] No results are presented for the first grade math sample because the number of instructional units (N=21) was too small to analyze.

[2] Only those common sources associated with more than .02 of the variation are reported.

TABLE A-4

UNIQUE AND COMMON SOURCES OF VARIATION FOR THE STUDY MODEL ELEMENTS AND INITIAL ACHIEVEMENT FOR THE PULLOUT, REGULAR AND FULL SAMPLES IN THE THIRD GRADE

	Third Grade Reading			Third Grade Math		
Unique Sources	Pullout (N=89)	Regular (N=89)	Full (N=178)	Pullout (N=46)	Regular (N=108)	Full (N=154)
Opportunity	.013	.010	.006	.008	.007	.008
Motivators	.010	.000	.001	.024	.021*	.008
Instructional Events	.024	.017	.007	.056	.009	.005
Individualization	.080*	.023	.027**	.127	.040*	.036*
Teacher Background	.040*	.005	.004	.096	.006	.010
Initial Achievement	.200***	.419***	.445***	.096*	.380***	.420***
Common Sources[2]						
Opportunity and Individualization				.021		
Opportunity and Teacher Background			.043			
Opportunity and Initial Achievement		.106	.078	.041	.098	.110
Motivators and Initial Achievement	.029	.034				
Instructional Events and Individualization				.022		
Instructional Events and Initial Achievement	.021					
Individualization and Initial Achievement	.193	.092	.131	.048	.045	.040
Teacher Background and Initial Achievement	.036	.028			.021	
Opportunity, Instructional Events, and Individualization				.033		
Opportunity, Instructional Events, and Initial Achievement		.042	.041	.029		
Opportunity, Individualization, and Teacher Background				-.037		
Opportunity, Individualization, and Initial Achievement				.049	.091	.047
Opportunity, Teacher Background, and Initial Achievement	.057	.031	.032			

TABLE A-4
(Continued)

	Third Grade Reading			Third Grade Math		
	Pullout (N=89)	Regular (N=89)	Full (N=178)	Pullout (N=46)	Regular (N=108)	Full (N=154)
Motivators, Individualization, and Teacher Background				.020		
Motivators, Individualization, and Initial Achievement		.029				
Instructional Events, Teacher Background, and Initial Achivement				.026		
Individualization, Teacher Background, and Initial Achievement	.031	.026		.041		
Opportunity, Individualization, Teacher Background and Initial Achievement	.025			.023		

$^{\bullet}p < .10$

$^{*}p < .05$

$^{**}p < .01$

$^{***}P < .001$

[1] For the third grade math Pullout sample, results may be unreliable, due to the small sample size (N=46) as compared to the number of predictors (20).

[2] Only those common sources associated with more than .02 of the variation are reported.

- The relationships between factors assumed to motivate students, classroom verbal interactions, teacher training and reading and math achievement for the first and third grade students are small and nonsignificant in almost all cases.

- The relationship between instructional environment and student attitudes toward reading/language arts and math activities is very small and nonsignificant.

- Program effectiveness can be predicted from program cost data only for first grade reading compensatory education students.

- Further analyses of the data are warranted, given the extensiveness of the data base and given the number of unexplored findings.

APPENDIX B

RELEVANT DATES FOR IDS AND FOLLOW-UP TESTING STUDY

TABLE B-1

TESTING DATES FOR FOLLOW-UP TESTING STUDY

SITE	SCHOOL DATES FOR STUDENTS			PUPIL SCHOOL DAYS 1976-77 SCHOOL YEAR	CALENDAR DAYS OF SUMMER VACATION	FOLLOW-UP TESTING DATES***				CALENDAR DAYS OF TESTING LAPSE	
	1976 OPENING	1977 CLOSING	1977 OPENING			FIRST GRADE		THIRD GRADE		FIRST GRADE	THIRD GRADE
						SPRING 77	FALL 77	SPRING 77	FALL 77		
A	9/7	6/10	9/27*	180	109	4/19	10/3	4/19	10/3	167	167
B	9/7	6/10	9/6	180	87	4/26	9/20	4/19	9/20	147	154
C	9/1	6/7	9/6	170**	90	5/10	9/20	5/10	9/20	133	133
D	9/7	6/17	9/6	184	80	4/26	9/20	4/19	9/20	147	154
E	8/30	6/13	8/30	180	78	4/19 (4/26 at two schools)	9/13 (9/20 at one school)	4/19 (4/26 at one school)	9/13 (9/20 at one school)	147	147
F	8/30	6/14	8/29	180	77	4/26	9/20	4/19	9/15	147	149
G	8/30	6/14	8/29	180	77	4/26	9/20 (9/27 at one school)	4/19	9/20 (9/27 at one school)	147	154

* Teacher strike delayed Fall 1977 Opening
** Schools closed for energy reasons during 1976-77 school year
*** First day of each testing period

APPENDIX C

PROCEDURES FOR TESTING COORDINATORS
AND
TESTING ASSISTANTS

KIRSCHNER ASSOCIATES, INC.

FOLLOW-UP TESTING

PROCEDURES
FOR
TESTING COORDINATORS

A Study Conducted
for the
National Institute of Education

September 1977

Albuquerque, New Mexico 87106 / 2425 Alamo Avenue, S.E. / (505) 243-1763
Washington, D.C. 20005 / 733 15th Street, N.W. / (202) 638-3423
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PROCEDURES FOR TESTING COORDINATORS

This document presents information about the tests and testing procedures to be used in the follow-up testing to the Instructional Dimensions Study. It describes:

- The CTBS
- Tracking procedures
- The testing schedule
- The recruitment and training of Testing Assistants
- Test administration
- Test booklet processing
- Summer program information
- Handouts for Testing Assistants and Teachers

A. The CTBS: A General Description

As you are aware, a standardized test was used in the Instructional Dimensions Study as the measures of initial (pretest) and criterion (posttest) student performance. These tests were the Comprehensive Test of Basic Skills (CTBS), Level B, Form S, which was administered to first graders as both the pretest and posttest; and CTBS Level 1, Forms S and T which were administered to third graders as the pretest and posttest, respectively. This fall a third round of CTBS testing will take place, using the following test forms:

- CTBS, Level B, Form S for last year's first graders (now in the second grade)
- CTBS, Level 1, Form T for last year's third graders (now in the fourth grade)

In terms of recommended grade levels for administration, these tests are the most appropriate ones available from CTBS. For example, Level B, Form S is recommended for K.6 -1.9; Level 1, Form T is recommended for 2.5 - 4.9. Use of any other level for a grade would create a greater risk of having the students bottom-out or top-out.

The CTBS, which is published by CTB/McGraw-Hill, was selected by the National Institute of Education for use in the Study. According to the CTBS publishers, it is appropriate for use in a compensatory education study since rigorous procedures have been used to identify and eliminate racial and ethnic bias from the test items.

The complete CTBS test battery consists of tests in a number of skill areas, including, for example, science and social studies. In this study, however, second graders will be tested only in the following skill areas: word recognition (2 sections), letter sounds, reading comprehension, mathematics concepts and applications, and mathematics computation. Fourth graders will be tested in reading vocabulary, reading comprehension, mathematics computation, and mathematics concepts and applications.

B. Student Tracking Procedures

It is intended that only those study pupils tested last spring be retested this fall. It is, therefore, necessary to identify and locate the classrooms in which these students will be located this fall. We have chosen to call this process student tracking (not to be confused with ability grouping practices).

In order to assist Testing Coordinators in this task, we have prepared and sent to each Testing Coordinator a listing of pupils whom we anticipate testing this fall. These listings, called Student Tracking Forms (See Exhibit A), were compiled from the final Master Pupil Posters submitted last spring. Using this form, in conjunction with fall teacher assignments and rosters available from each school's office, a Testing Coordinator will be able to identify each student's 1977 - 78 homeroom teacher. If, in the course of tracking students, errors or omissions are noted in the Student Tracking Forms, this fact should be communicated to Morris Peterson immediately.

The date by which classroom assignments are made will, of course, differ from district to district. In most districts, however, initial assignments will have been made by the third week in August. It should be possible at that time to identify the expected homeroom teacher for each student. It will, of course, be necessary to verify these assignments after the beginning of the students' school year.

In many schools, first and third grade classes will be graduated, virtually intact, to become second and fourth grade classes. In such cases, tracking of

EXHIBIT A

KIRSCHNER ASSOCIATES INC.

STUDENT TRACKING FORM

District____________________ School____________________

Identification Code		Student Name	Teacher 1976-77	Teacher 1977-78	Testing Completed
Teacher	Student				

students should be a relatively easy matter. In other schools, students at a given grade level will be intermingled. In those instances, tracking may be a somewhat more complex process. In either event, the tracking of students should be accomplished as soon as is possible and convenient for school staff.

C. Test Scheduling

Testing Coordinators are responsible for scheduling tests in each school building. The testing schedule should be established by the first week of school so that testing can be conducted during the weeks of September 12 or September 19. All testing for both grades should be conducted during the same week.

The specific schedule which sould be used for testing the second and third graders is shown in Exhibit b. Exhibits C and D show the parts of the test to be administered and the total number of minutes required for testing each day.

As indicated in these exhibits, testing will be conducted only in the mornings. Students at each grade level (i.e., second and fourth) will be subdivided into two waves (i.e., A and B) each. Wave A for each grade will be tested on Tuesday morning and Wednesday morning of the testing week, while Wave B will be tested on Thursday morning and Friday morning of the same week. The schedule avoids testing on Monday mornings and Friday afternoons, as recommended by the CTBS Examiner's Manual.

The precise schedule for classrooms to be used at each school -- that is, which classrooms will be tested on which days -- should be decided by the Testing Coordinator in conjunction with school building principals. Blank forms to be used in writing the test schedule will be provided to you. Once the schedule is developed, it should be copied and submitted to Morris Peterson. If it is necessary to combine students from a number of classes into one group for testing purposes, no group should be formed of more than 35 students. If study students are still in classes where most students are study students, the class should be tested as a unit. Although it is our intent to test only those

EXHIBIT B

CTBS TESTING SCHEDULE

	GRADE	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
MORNINGS	2	Testing and Test Preparation	**WAVE A** Letter Sounds Word Recog. I Reading Comp. Word Recog. II	**WAVE A** Math Concepts & Applications Math Computations	**WAVE B** Letter Sounds Word Recog. I Reading Comp. Word Recog. II	**WAVE B** Math Concepts & Applications Math Computations
	4		**WAVE A** Vocabulary Reading Comp.	**WAVE A** Math Computation Math Concepts & Applications	**WAVE B** Vocabulary Reading Comp.	**WAVE B** Math Computation Math Concepts & Applications

EXHIBIT C

TEST SCHEDULE IN MINUTES PER DAY

SECOND GRADE

DAY	TEST/EVENT	# ITEMS	INSTRUCTION TIME	WORKING TIME	BREAK TIME
DAY 1-A.M. (Tuesday or Thursday)	Letter Sounds	22	5	15	
	Break				5-10
	Word Recog. I	19	5	16	
	Break				15
	Reading Comprehension	24	5	15	
	Break				5-10
	Word Recog. II	19	5	14	
Total Time for Day 1, A.M. 105-115 Minutes		84	20	60	25-35
DAY 2-A.M. (Wednesday or (Friday)	Mathematics Concepts & Applications	24	5	26	
	Break				5-10
	Mathematics Computation: Addition	16	5	16	
	Break				5-10
	Subtraction	16	5	16	
Total Time for Day 2, A.M. 83-93 Minutes		56	15	58	10-20

Battery Total Times

	TOTAL ITEMS	TOTAL INSTRUCTION TIME (MINS)	TOTAL WORKING TIME (MINS)	TOTAL BREAK TIME (MINS)
All Sessions & Events Total Time: MINUTES 188-208	140	35	118	35-55

EXHIBIT D

TEST SCHEDULE IN MINUTES PER DAY

FOURTH GRADE

DAY	TEST/EVENT	# ITEMS	INSTRUCTION TIME	WORKING TIME	BREAK TIME
DAY 1-A.M. (Tuesday or Thursday)	Reading Vocabulary	40	10	15	
	Break				5-10
	Reading Comprehension	45	5	35	
Total Time for Day 1, A.M. MINUTES 70-75		85	15	50	5-10

DAY 2-A.M. (Wednesday or Friday)	Mathematics Computation	48	5	40	
	Break				5-10
	Mathematics Concepts & Applications	50	5	35	
Total Time for Day 2, A.M. MINUTES: 90-95		98	10	75	5-10

Battery Total Times

	TOTAL ITEMS	TOTAL INSTRUCTION TIME (MINS.)	TOTAL WORKING TIME (MINS.)	TOTAL BREAK TIME (MINS)
All Sessions & Events Total Time MINUTES: 160-170	183	25	125	10-20

students that participated last year, Testing Assistants may, after consultation with the teacher, test additional non-study students rather than require the segregation of such students into a separate group.

Make-up tests will be conducted only if a large number of students are absent during testing days. To the extent possible, make-up tests should be conducted during the alternative Wave of testing for each school building. For example, if a Wave A fourth grade student misses testing on Wednesday morning, then the student should be scheduled to take the test with the Wave B students on Friday morning. Or, if it is known that a Wave B student will be absent on Thursday or Friday of the test week, that student might be shifted to the Wave A cycle for the school building. In all cases, such arrangements must be cleared with the principal and the classroom teacher.

In order to determine if make-up tests will be necessary during the week following the testing week, each Testing Coordinator should call in to Morris Peterson during Friday afternoon of the testing week and report the percent of students for which testing was completed in each classroom. By the following Monday, a decision will be made regarding the need for make-ups. If make-up testing is necessary at any site, the Testing Coordinator should hire one Testing Assistant to administer make-up testing for the CTBS. Generally, the make-up Testing Assistant should schedule make-ups over two days for each school building. For example, make-ups for fourth grade students might be conducted Tuesday and Wednesday afternoons and for second grade students on Tuesday and Wednesday mornings. The scheduling strategy should seek to administer make-ups to as many second or fourth grade students as possible during a single make-up testing session.

D. Hiring and Training Testing Assistants

Testing Assistants fill a responsible role, since they will carry out the actual test administration. When recruiting for this position, the Testing Coordinator should look for individuals with the following characteristics:

- Availability for the full testing week

- One or more years of elementary teaching experience, preferably at the primary level (this will help ensure that the assistant will be experienced in dealing with young children)

- Experience in test administration

Good sources for recruiting Testing Assistants may include school building principals, the district substitute teacher list, the local teacher's association (which may know of retired teachers), and elementary education graduate students, providing that their schedule allows them to commit to the total testing week. When recruiting Testing Assistants, it would be prudent to recruit a few "back-ups", who can substitute in case of illness.

The Testing Assistants will be trained by the Testing Coordinator. It is anticipated that the training session should take from two to three hours. The following points should be covered:

- A general description of the CTBS (found in the CTBS Examiner's Manuals)

- Materials needed for testing sessions

- Preparing the students and the environment for effective testing sessions (these suggestions are found in the CTBS Examiner's Manual)

- Guidelines for breaks, such as allowing only restroom and drink privileges during a 15-minute break

- Directions to be read to the students, as stated in the manuals

- The kinds of student questions that should and should not be answered. (Assistance to students should be limited to the mechanical aspects of marking answers, clarifying directions, and finding the right place in the test booklets; Testing Assistants should guard against suggesting a correct answer or pointing out the rationale for an item.)

- The time limits to be observed for the CTBS, Level 1, Form T
- Pacing for the CTBS, Level B, Form S
- How to monitor students to make sure they are marking their answers in the correct manner.

Also at this training session, the Testing Coordinator should provide each Testing Assistant with copies of the following handouts: "Appropriate School Classroom Behavior for Testing Assistants," "Testing Materials Checklist," and Test-Procedures" contained in the manual, Procedures for Testing Assistants.

It is generally appropriate to hire Testing Assistants for a total of five half-days, during which time each Testing Assistant can serve two classes. The first half-day -- generally Monday of the testing week -- would be devoted to training and test booklet preparation. The remaining four half-days (mornings) would be spend in test administration according to the schedule shown in Exhibit B.

Testing Assistants will be paid at the prevailing half-day rate for substitute teachers for each district, or 60% of the prevailing daily rate, if no half-day rate exists. If for some reason, difficulty is encountered in hiring Testing Assistants for half-day rates, Morris Peterson should be notified immediately.

E. Test Administration Procedures

The tests will be administered in each classroom by a Testing Assistant who must be present during the entire testing period and breaks.

In addition to the actual test administration, each Testing Assistant will be responsible for bringing all required materials to the classroom (booklets, pencils, extra supplies, wristwatch, CTBS Examiner's Manuals, and a "TESTING IN PROGRESS" sign) and for completing the student identifying data before going to the classroom (student's name and grade, name of teacher and school) on the back of each booklet. Note that, since the tests will be hand scored, the directions in the Examiner's Manual for using the machine scorable books should be ignored.

While the tests will be administered in each classroom by the Testing Assistant, the classroom teacher also must be present in the classroom. This will be done because it is felt that, in testing primary grade children, the presence of the teacher is necessary to maintain an atmosphere free of tension and concern. However, both to minimize the burden to the teacher and to ensure uniformity of test administration procedures, the teacher will not read the test directions to the students.

The specific directions to be given to the students during the tests are stated in the CTBS Examiner's Manual. (For example, the directions for Level 1, Form T, of the CTBS, appear on pp. 15-36 of the Manual). The students will record their answers in the CTBS test booklets, rather than on separate answer sheets.

In the manual Procedures for Testing Assistants, the specific duties and responsibilities of the Testing Assistants and the classroom teacher are identified (see Appendix).

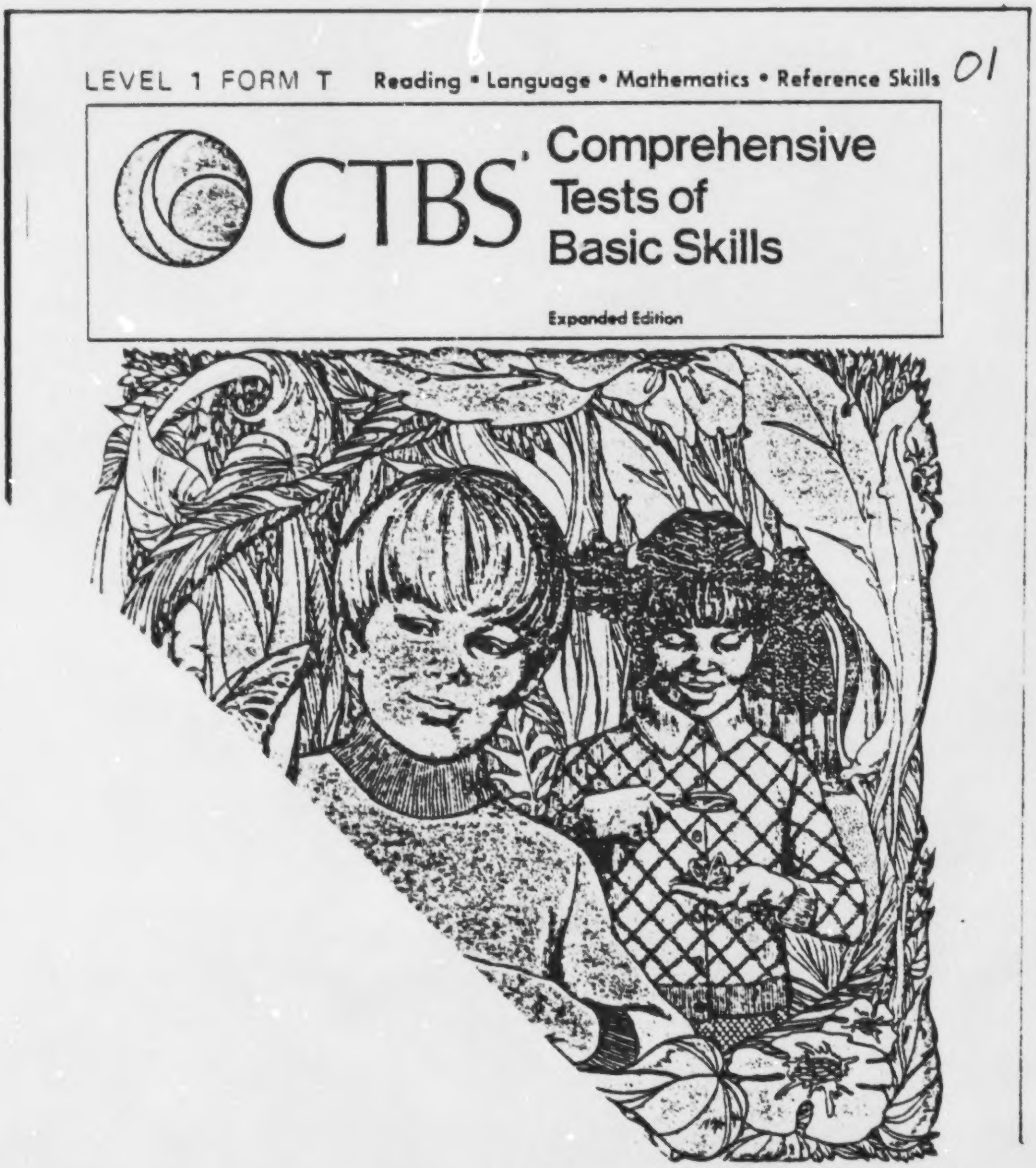
F. Test Booklet Processing

Prior to testing in each classroom, each Testing Assistant must perform the following steps:

- Using the updated Student Tracking Form for a classroom as a reference, place the Pupil ID in the extreme upper righthand corner of the front covers of the CTBS booklets (see Exhibit E).

EXHIBIT E

ENTERING PUPIL ID CODE ON CTBS BOOKLET



LEVEL 1 FORM T Reading • Language • Mathematics • Reference Skills 01

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- Fill in the required information on the back covers of the CTBS booklets:
    - Name (of Student)
    - Grade
    - Teacher (first for 1977-1978 teacher); then to the right enter the name of the 1976-1977 teacher and circle the name.
    - School (Building)
    - Testing Date (first day of testing)

- Staple or tape together at the side or the uppermost righthand corner the following pages in the CTBS booklets (since these pages contain subtests not being used):
    - Level 1, Form T -- pp. 11-16
    - Level B, Form S -- pp. 13-18

- Group the booklets according to the "1977-78 Teacher" as indicated on the Student Tracking Form.

After all testing has been completed for a classroom, each testing Assistant should:

- Regroup test booklets according to "1976-77 Teacher" as indicated on the Student Tracking Form

- Within each group, place booklets in numerical order according to pupil identification code

- Put a check mark in the righthand column of the Student Tracking Form for each student who has completed the CTBS

- Place the Student Tracking Form on top of the packet of CTBS booklets and bind the packet with string or rubber band

- Place in a "Make-ups and Problems" folder the CTBS booklets of students for whom make-ups may be required

- Turn the CTBS packets over to the Testing Coordinator within one day after the completion of testing for the Wave.

Upon receipt of the test booklets, the Testing Coordinator shall do the following:

- Count the CTBS booklets
- Compare the number of completed booklets to the number of pupils checked on the Student Tracking Form
- Reconcile any differences between completed test booklets and make-ups and problems
- Initial the upper righthand corner of the Student Tracking Form
- Call Morris Peterson to report the number of students for whom testing was completed
- Place the test packets in a box and ship to:

Kirschner Associates, Inc.
Attention: Morris Peterson
733 Fifteenth Street, N.W.
Washington, D.C. 20005

Shipment may be made by either United Parcel Service (UPS) or U.S. Postal Service. However, we prefer UPS.

G. Summer Program Information

In addition to CTBS results for selected students, NIE also seeks general information on the nature and amount of summer instruction in reading and math received by the selected students. The collection procedure and form of this data will vary from district to district. However, some suggested guidelines for this activity are listed below:

- Contact your district contact to identify the office(s) most likely to have the desired information.
- Consult district records to determine which schools provided summer reading and math instruction for their students.
- Collect copies of whatever preprinted material (e.g., brochures, handouts) that might be available about such summer programs.
- If programs exist, consult school records to determine which study students participated in the summer programs, the number of hours of instruction in reading and in math received by each student listed on the Student Tracking Forms (e.g., if a pupil had a six-week summer course where he/she got 2 one-hour reading sessions and 2 half-hour math sessions each week, the total time would be 12 hours for reading and 6 hours for math).
- The "Teacher 1976-77" column of the Student Tracking Form may be used for making appropriate data entries.
- Write a brief (less than 100 words) narrative description of each summer program, and/or include the available brochures and handouts, if they provide complete information.

APPENDIX

KIRSCHNER ASSOCIATES, INC.

PROCEDURES FOR TESTING ASSISTANTS

FOR THE

FOLLOW-UP TESTING STUDY

September 1977

PROCEDURES FOR TESTING ASSISTANTS

Prior to testing in each classroom, each Testing Assistant must complete the following tasks:

- Using the updated Student Tracking Form as a source of information, place the Pupil ID number (2-digits) in the extreme upper righthand corner of the front covers of the CTBS booklets (see Exhibit A).
- Fill in the required information on the back covers of the CTBS booklets:
    - Name (of Student)
    - Grade
    - Teacher (first 1977-1978 teacher); then name of 1976-1977 teacher, circle
    - School (Building)
    - Testing Date (first day of testing for student)
- Staple or tape together at the side or uppermost righthand corner the following pages in the CTBS booklets (since these pages contain subtests not being used):
    - Level 1, Form T -- pp. 11-16
    - Level B, Form S -- pp. 13-18
- Group the CTBS booklets according to the "1977-78 Teacher" as indicated on the Student Tracking Form
- Prepare a "Make-ups and Problems" folder or envelope for the CTBS booklets of students for whom make-ups may be required.
- Practice giving the required instructions for each subtest.
- Check the handout "Guidelines for Testing Assistants: Testing Procedures" which has been given to you by the Testing Coordinator. Also, review "Testing Materials Checklist (see Exhibits B and C).
- Check timing for testing (see Exhibits D and E).
- On the day of testing, introduce yourself to the teacher, explain the basic procedures to be used, and give the teacher a copy of the handout, "Testing Procedures Handout for Teachers" (see Exhibit F).

After testing has been completed for a classroom, each Testing Assistant must complete the following tasks:

- Regroup CTBS booklets according to "1976-77 Teacher" as indicated on the Student Tracking Form.
- Within each group, place the booklets in numerical order according to the Pupil ID numbers.
- Put a check-mark in the righthand column of the Student Tracking Form for each student who has completed the required subtests of the CTBS.
- Place the Student Tracking Form on top of the packet of CTBS booklets and bind the packet with string or a rubber band.
- Place in the "Make-ups and Problems" folder or envelope the CTBS booklets of students for whom make-ups may be required. Attach a note indicating the nature of the "problem" for a student (e.g., emotionally disturbed, untestable, failed to follow directions).
- Turn the CTBS packet over to the Testing Assistant within one day after the completion of testing for a Wave.

EXHIBIT A

ENTERING PUPIL ID CODE ON CTBS BOOKLET

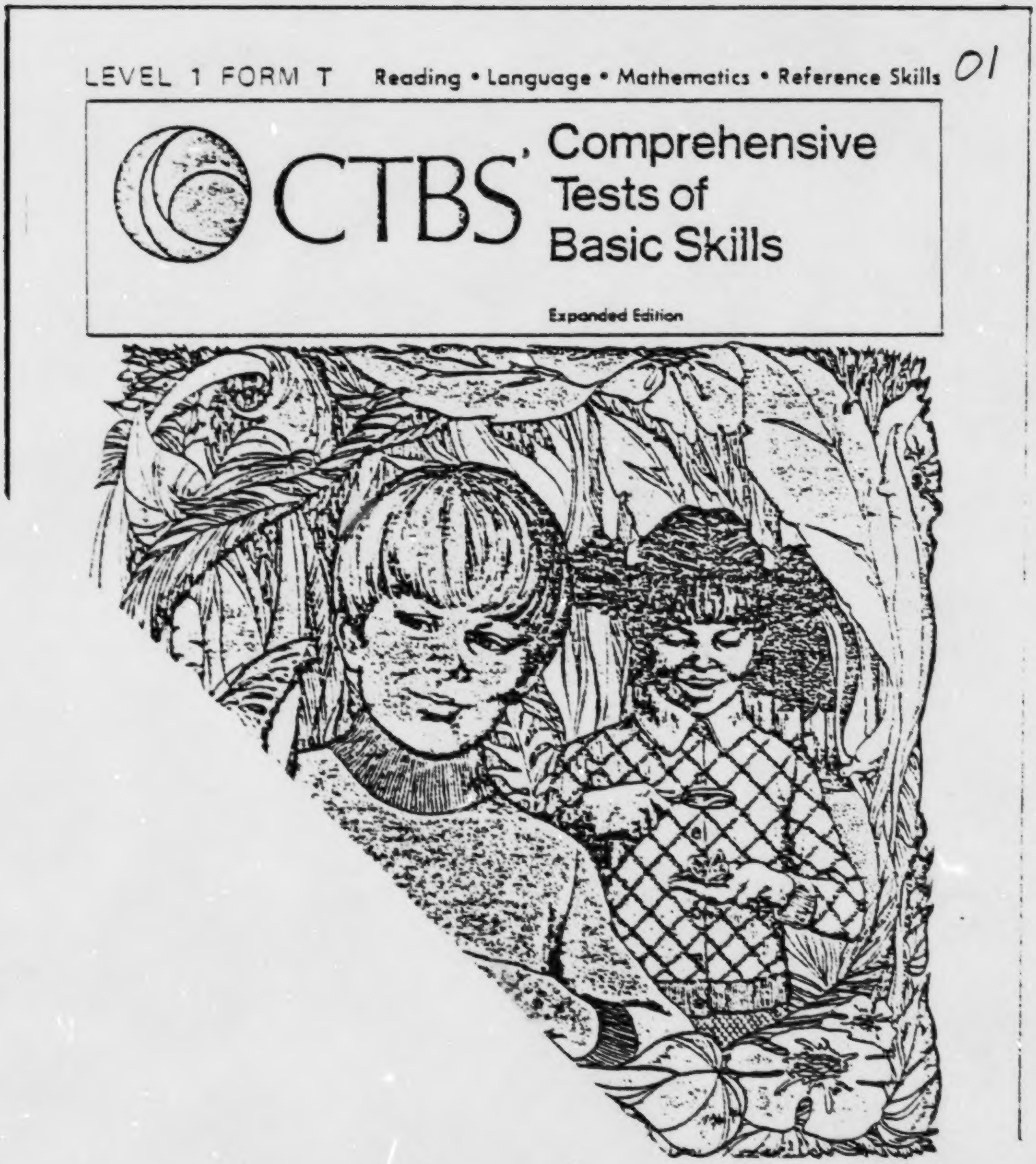

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EXHIBIT B

GUIDELINES FOR TESTING ASSISTANTS

TESTING PROCEDURES

1. Double check your testing schedule to make sure you are planning to test the right class with the right forms.

2. Check to make sure you have all materials for the testing session.

3. Arrive at the school about one-half hour before testing begins.

4. After signing-in, go to the room in which you will be testing, introduce yourself to the teacher, and make sure the room is well set-up for testing.

5. The teacher must be in the classroom during testing. She/he is there both to help prevent discipline problems and pupil upset and to proctor the test. Provide the teacher with a copy of the handout detailing appropriate proctoring activities, and ask that he/she assist with testing in those ways. A teacher may offer to administer the tests. Thank the teacher, but politely and firmly refuse assistance in actual test administration. You may wish to tell the teacher briefly and courteously that for the study we are following very strict procedures for ensuring standard conditions which specify that teachers' assistance must be limited to the proctoring activities outlined in the handout.

6. When the testing is scheduled to begin, place the testing sign on the door, close the door(s), introduce yourself to the class and pass out all materials according to the directions for administration.

7. If the regular teacher is absent on the scheduled day for testing, postpone

testing, rescheduling it for a later date when the regular teacher has returned. (If it is known that the regular teacher will be absent for more than a few days, contact the Testing Coordinator for instructions.) Quite often, the school will know a teacher will be absent either the evening before or very early in the morning on the day of the absence. Be prepared to re-arrange your testing schedule on short notice, since you may be able to use the time allotted to the absent teacher for testing another teacher's class.

8. If a student arrives late, but before the directions for the first subtest have been given, include him/her in the testing.

9. If a student arrives after the directions have been given, he/she should not be included in that testing session. Have arrangements made in advance for a place to send late students who have been excluded from testing.

10. When administering any test, keep the pace steady and as rapid as possible. The students will pace themselves to the test administrator. Spending too much time waiting between items will only create discipline problems and boredom.

11. Adhere strictly to the standardized directions for administering each test.

12. In the case of an unusual occurrence during testing (e.g., fire drill, exciting announcement over the P.A. system, flood, etc.) which disrupts the testing situation, you must use your discretion for resuming testing. If you feel that the situation is too disruptive to continue testing with the testing session, have students close their test booklets and stop work temporarily. (If you are in a timed test, be sure to note the amount of time elapsed at the time of the disruption.) At your discretion, let the children have a few minutes on break to settle down, or reschedule the

remainder of the session for the next Wave. When you do resume the subtest, re-read the subtest instructions, have children start where they left off, and allow the amount of time which remained for the subtest at the time of the disruption. Any time such as unusual occurrence takes place, you must give a fairly detailed account of what happened and how you handled the situation, on a sheet of paper to be attached and returned to the Testing Coordinator.

13. After the testing for the day is completed and all test booklets are collected, you should keep separate the completed tests, the tests of study students who were absent, tests of study students who are no longer in the class, and the tests of non-study students. Please label each.

14. On each absent student's test booklet write the subtests which that student missed. This information is essential for scheduling make-ups, if they are necessary.

15. All test booklets and materials should be returned to the Testing Coordinator from whom you received them.

EXHIBIT C

TESTING MATERIALS CHECKLIST

Pick-up all materials necessary for testing from the Testing Coordinator the afternoon prior to testing or during the Testing Assistant Training Session. This should include:

- Test booklets for each student. (The Testing Assistants will write in all identifying information beforehand: student name, teacher, building, date of first test period, etc.)
- Extra test booklets
- 1 CTBS Examiner's Manual of the correct form
- Place markers for first (second) grade students, if necessary
- Scratch paper for student use
- Enough pencils with erasers for each student plus extras in case of breakage
- 1 "Testing In Progress" sign and a way of hanging it on the classroom door
- 1 wrist watch
- The Student Tracking Form.

EXHIBIT D

TEST SCHEDULE IN MINUTES PER DAY

SECOND GRADE

DAY	TEST/EVENT	# ITEMS	INSTRUCTION TIME	WORKING TIME	BREAK TIME
DAY 1-A.M. (Tuesday or Thursday)	Letter Sounds	22	5	15	
	Break				5-10
	Word Recog. I	19	5	16	
	Break				15
	Reading Comprehension	24	5	15	
	Break				5-10
	Word Recog. II	19	5	14	
Total Time for Day 1, A.M. 105-115 Minutes		84	20	60	25-35
DAY 2-A.M. (Wednesday or (Friday)	Mathematics Concepts & Applications	24	5	26	
	Break				5-10
	Mathematics Computation: Addition	16	5	16	
	Break				5-10
	Subtraction	16	5	16	
Total Time for Day 2, A.M. 83-93 Minutes		56	15	58	10-20

Battery Total Times

	TOTAL ITEMS	TOTAL INSTRUCTION TIME (MINS)	TOTAL WORKING TIME (MINS)	TOTAL BREAK TIME (MINS)
All Sessions & Events Total Time: MINUTES 188-208	140	35	118	35-55

EXHIBIT E

TEST SCHEDULE IN MINUTES PER DAY

FOURTH GRADE

DAY	TEST/EVENT	# ITEMS	INSTRUCTION TIME	WORKING TIME	BREAK TIME
DAY 1-A.M. (Tuesday or Thursday)	Reading Vocabulary	40	10	15	
	Break				5-10
	Reading Comprehension	45	5	35	
Total Time for Day 1, A.M. MINUTES 70-75		85	15	50	5-10

DAY 2-A.M. (Wednesday or Friday)	Mathematics Computation	48	5	40	
	Break				5-10
	Mathematics Concepts & Applications	50	5	35	
Total Time for Day 2, A.M. MINUTES: 90-95		98	10	75	5-10

Battery Total Times

	TOTAL ITEMS	TOTAL INSTRUCTION TIME (MINS.)	TOTAL WORKING TIME (MINS.)	TOTAL BREAK TIME (MINS)
All Sessions & Events Total Time MINUTES: 160-170	183	25	125	10-20

EXHIBIT F

TESTING PROCEDURES HANDOUT FOR TEACHERS

For the testing of your class, a trained test examiner will administer the tests. This examiner has all the materials required to do the testing. As the teacher of these children, your presence is needed to reassure them and facilitate their cooperation. Please help us by following these guidelines:

- As the demonstration items are being worked, make sure the students are marking answers in the correct manner and help those who are not.
- Make certain that each student is looking at the correct items on the correct page.
- See that each student is making only one mark per item.
- Discourage talking or sharing of answers.
- Do not show, hint, or suggest the right answer to the students. If someone asks, "Is this right?" say, "You choose the one you think is right, and go on."
- Help a student erase if he/she indicates that he/she wants to change an answer.
- Inform the examiner if any unusual problems arise.
- If a student needs to have an orally administered item repeated, do not repeat the item, but ask the examiner to do so.
- Help collect test materials.
- Note students who have "completed" a test, but either never paid attention or have consistently marked answers before the items were read. Help the examiner identify these test booklets.

EXHIBIT G

SUGGESTED SCHOOL AND CLASSROOM BEHAVIOR FOR TESTING ASSISTANTS

When entering a school, it is important that all personnel look, and act in a professional manner. Following a few simple guidelines will aid in acceptance and facilitate cooperation. This does not imply relinquishing individuality while in the schools, but it does mean that courteous and considerate behavior is expected. These guidelines are suggested:

- Dress and groom yourself appropriately. Jeans and T-shirts are not acceptable in most schools. If necessary, check with the Testing Coordinator to determine the custom of each particular school, as they may differ greatly with respect to hair lengths, beards, dress and so forth.
- Be considerate of school parking facilities. Be careful not to park in someone's assigned space or to block other cars or entrances. If the school lot is small, park on the street.
- When arriving, report to the Testing Coordinator and/or office in the school building. Each school has different procedures, but most require that external personnel sign in and sign out.
- Set up and organize all materials early.
- If the teachers' lounge is used for waiting, leave it in the same way it was found. If there is a coffee maker, leave money (usually 10¢ a cup) for any coffee that you drink.

- Never talk about a child, teacher, class, or any other school personnel while in the school. Remember that personal views may not be appreciated from outsiders.

- Never discuss another school while on site. This may only lead to the discomfort of those at the present site, as they will be concerned about what might be said about them at the next site.

- Remember that the school is a self-contained world with its own values, problems, joys and conflicts. What is said and done in one world with little fear of misrepresentation cannot always be said or done with similar consequences in the school's world.

- Be as efficient as possible. Try to cause as little disruption to the school processes as possible.

- Maintain a professional approach at all times. Be friendly but not "chummy." Respect the teacher's position as the authority in his/her classroom. Respect the principal's authority as head of the school. And most of all, respect the enormous load that all school personnel must handle. Try to be flexible and calm no matter what happens.

- Maintain distance with the children. Being nice does not mean being patronizing or motherly. Do not enter into contact relations with the children (e.g., eye contact with "meaningful smiles," patting), unless it is necessary for the performance of the task.

- Be open and accepting of suggestions made by school personnel. If the suggestions do not conflict with our interest in obtaining precise data, try to be as accommodating as possible.
- If teachers or other school personnel ask questions about the testing, be polite, answer briefly and try not to discuss the matter in any great detail.
- Be appreciative. Thank all involved for their time and assistance.
- Remember to sign out or to let someone know you are leaving when you depart from the school building.
- Always drive slowly and carefully near any school building.

APPENDIX D

DISTRICT-BY-DISTRICT SUMMARY DATA

TABLE D-1

NUMBER AND PERCENT OF INSTRUCTIONAL DIMENSIONS STUDY STUDENTS WHO PARTICIPATED IN FOLLOW-UP TESTING

FIRST GRADE STUDENTS

District	Number IDS Students	Number IDS Students Available	Number IDS Students with Complete Tests	Number IDS Students with Partial Tests	Percent Total IDS Students with Data	Percent Available IDS Students with Data
A	235	185	179	180	77	97
B	181	141	133	138	76	98
C	260	208	198	204	78	98
D	398	330	317	321	81	97
E	424	297	289	294	69	99
F	195	169	144*	148*	76*	88*
G	250	158	143	148	59	94
TOTALS	1,943	1,488	1,403	1,433	74	96

TABLE D-2

THIRD GRADE STUDENTS

District	Number IDS Students	Number IDS Students Available	Number IDS Students with Complete Tests	Number IDS Students with Partial Tests	Percent Total IDS Students with Data	Percent Available IDS Students with Data
A	225	174	169	172	76	99
B	143	125	119	123	86	98
C	272	245	232	235	86	96
D	338	276	266	274	81	99
E	382	282	276	280	73	99
F	442	350	326	342	77	98
G	189	125	117	123	65	98
TOTALS	1,991	1,577	1,505	1,549	78	98

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* Excludes one classroom with 23 IDS students (19 were available for follow-up testing). Testing data is incomplete because of an error by the testing assistant.

TABLE D-3

STUDY SAMPLE SCHOOL ENROLLMENTS AND COMPENSATORY EDUCATION PARTICIPATION BY STUDY SCHOOL DISTRICT (N=27)

District	Number of Schools	Total Enrollment	Comp. Educ. Enrollment	Percent Comp. Educ.
A	3	2,190	970	44%
B	3	1,357	468	34%
C	4	2,436	546	22%
D	3	3,486	3,486	100%[1]
E	4	2,485	1,422	57%
F	6	3,623	1,306	36%
G	4	3,087	1,383	45%
TOTALS	27	18,669	9,581	51%

Source: School Building Program Reports for the Instructional Dimensions Study, 1976-1977 School Year.

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[1] This school district computes number of pupils provided compensatory education instruction by including non-Title I compensatory education programs which serve nearly all students, although certainly not as extensively as Title I; hence the seemingly high percentage.

TOTAL ENROLLMENTS, TITLE I ELIGIBLES AND TITLE I PARTICIPANTS FOR DISTRICTS IN STUDY SAMPLE

(All District Schools, not only Study Sample Schools)

District	Number of Schools	Total Enrollment	Number of Students Title I Elig.	Percent Eligible for Title I	Number of Students Title I Particip.	Percent Served by Title I
A	53	38,380	5,205	14%	5,148	99%
B	20	7,829	1,527	20%	1,527	100%
C	27	17,577	810	5%	646	80%
D	203	159,744	22,484*	14%	22,484	100%
E	66	42,992	5,569	13%	4,887	88%
F	150	129,856	6,300	5%	6,300	100%
G	248	239,294	60,000*	25%	25,000*	42%
Sample District Average	110	90,910	14,556	14%	9,427	87%

Source: District Interviews and District Program Reports for the Instructional Dimensions Study, 1976-1977 School Year.

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*These figures were the best estimates available at the time of the interview.

TABLE D-5

PERCENT TOTAL MINORITY ENROLLMENT FOR STUDY SAMPLE SCHOOLS BY SCHOOL DISTRICT (N=27)

SCHOOL DISTRICT SCHOOL BUILDING	% MINORITY ENROLLMENT
A	
1	87.6%
2	97.9%
3	96.5%
B	
1	85.6%
2	23.5%
3	8.7%
C	
1	0.0%
2	5.1%
3	2.5%
4	11.9%
D	
1	55.8%
2	96.2%
3	100 %
E	
1	59.8%
2	61.4%
3	60.1%
4	47.1%
F	
1	95.2%
2	48.5%
3	30.5%
4	35.9%
5	53.8%
6	38.2%
G	
1	41.7%
2	100 %
3	15.1%
4	83.7%
SCHOOL BUILDING AVERAGE	53.4%

Source: School Building Program Reports for the Instructional Dimensions Study, 1976-1977 School Year.

TABLE D-6

REGION, TOTAL POPULATION, PERCENTAGE OF MINORITY POPULATION, SCHOOLS, TOTAL ENROLLMENTS, MINORITY ENROLLMENTS (GROSS & PERCENT FOR ENTIRE DISTRICT) FOR EACH OF STUDY SAMPLE DISTRICTS (N=7)

District	Region	Total Population[1]	Percent Minority Population[1]	Number of Schools[4]	Total Enrollment (Public Schools Only)[4]	Total Minority Enrollment[4]	Percent Minority Enrollment[4]
A	North Central	193,379	28.6	53	38,380	21,638	56.38%
B	North Central	44,631	15.0	20	7,829	2,941	37.57%
C	North Central	53,265[2]	2.0	27	17,577	714	4.06%
D	Mid-Atlantic	905,759	47.0	203	159,744	120,703	75.56%
E	Mid-Atlantic	307,951	30.2	66	42,992	26,512	61.67%
F	South Atlantic	620,100[3]	12.8	150	129,856	33,816	26.04%
G	South Atlantic	1,267,792[3]	15.5	248	239,994	141,632	59.01%
				110	90,910	49,708	45.76%

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[1] Source: Bureau of the Census, *Census of the Population, 1970. General Population Characteristics*, Final Report, published by the Department of Commerce, Washington, D.C. in April, 1972; exceptions are noted below in footnotes 2 and 3.

[2] Source: School system itself which covers four townships and one-fourth of a county, using U.S. Census data from 1970.

[3] Last two population figures are for counties.

[4] Source: District Interviews and District Program Reports for the Instructional Dimensions Study, 1976-1977 School Year.

TABLE D-7

DISTRIBUTION OF STUDY SAMPLE SCHOOLS BY URBAN, SUBURBAN, AND RURAL BY STUDY SAMPLE DISTRICT (N=27)

District	Number of Schools (Total)	Number of Schools (Urban)	Number of Schools (Suburban)	Number of Schools (Rural)
A	3	3		
B	3	3		
C	4		3	1
D	3	3		
E	4	4		
F	6		6	
G	4	1		3
	—	—	—	—
TOTALS	27	14	9	4
PERCENT OF TOTAL		52%	33%	15%

TABLE D-8

RANGE OF ENROLLMENT OF INDIVIDUAL STUDY SAMPLE SCHOOLS BY STUDY SAMPLE DISTRICT (N=27)

District	Number of Schools	251-500	501-750	751-1000	1001-1500	1501-2000	2000+
A	3		2	1			
B	3	2	1				
C	4	1	3				
D	3		2				1
E	4		4				
F	6	1	4	1			
G	4		2	1	1		
	—	—	—	—	—	—	—
	27	4	18	3	1	0	1
Percent of Total	100%	14.81	66.67	11.1	3.70	00.0	3.70

Source: School Building Program Reports for the Instructional Dimensions Study, 1976-1977 School Year.

TABLE D-9

TOTAL (AVERAGE) PER PUPIL EXPENDITURE (FROM ALL LOCAL, STATE, & FEDERAL SOURCES) FOR STUDY SAMPLE DISTRICTS (N=7)

District	Average Per Pupil Expenditure ($)
A	$ 1789
B	1315
C	1326
D	1811
E	1263
F	2076
G	2174
Sample District Average	$ 1679

Source: 1976-77 District Budgets

TABLE D-10

PARTICIPATION IN SUMMER INSTRUCTIONAL PROGRAMS

FIRST GRADE READING			FIRST GRADE MATH			THIRD GRADE READING			THIRD GRADE MATH		
DISTRICT	SUMMER PROGRAM STUDENTS	AVERAGE HOURS PER STUDENT	DISTRICT	SUMMER PROGRAM STUDENTS	AVERAGE HOURS PER STUDENTS	DISTRICT	SUMMER PROGRAM STUDENTS	AVERAGE HOURS PER STUDENT	DISTRICT	SUMMER PROGRAM STUDENTS	AVERAGE HOURS PER STUDENT
A	20	21.20	A	19	25.47	A	23	21.86	A	21	26.33
B	0	0.00	B	0	0.00	B	0	0.00	B	0	0.00
C	7	8.00	C	0	0.00	C	4	8.00	C	0	0.00
D	16	20.00	D	14	20.00	D	0	0.00	D	0	0.00
E	39	38.00	E	39	30.00	E	8	38.00	E	7	30.00
F	0	0.00	F	0	0.00	F	0	0.00	F	0	0.00
G	25	31.52	G	26	31.76	G	23	30.73	G	24	31.04
T[1]	107	31.52	T	98	31.76	T	58	30.73	T	52	31.04

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[1] T = Total

APPENDIX E

FOLLOW-UP TESTING STUDY COMPUTER REPORTS

Description

There are 36 tables in this Appendix, 9 for each of the grade and subject samples. The order of the tables for each sample is as follows: first grade reading, first grade math, third grade reading, and third grade math. Within each sample, the following tables are presented in the order given:

- Fall 76 to Spring 77 – Summer School Participation
- Fall 76 to Spring 77 – Pretest Score
- Fall 76 to Spring 77 – Fall-to-Spring Gain
- Spring 77 to Fall 77 – Summer School Participation
- Spring 77 to Fall 77 – Pretest Score
- Spring 77 to Fall 77 – Fall-to-Spring Gain
- Fall 76 to Fall 77 – Summer School Participation
- Fall 76 to Fall 77 – Pretest Score
- Fall 76 to Fall 77 – Fall-to-Spring Gain

Each table has nine columns of data – three for compensatory education students, three for non compensatory education students, and three for the total sample. The Yes-No under each heading indicates whether or not the group, e.g., participated in summer school or did not participate.

The three total columns are always equal within a sample. The first two rows of numbers in each table are the mean and standard deviation for all students in standard scores for the *first* time period referenced in the title. The second two rows represent the mean and standard deviation of student gain scores from the first to the second test period referenced in the title. Percentiles and grade equivalents were computed by transforming mean standard scores to percentiles for grade equivalents for each test administration, not by averaging these metrics.

```
                         IDS FOLLOW-UP TESTING ANALYSIS

                SUBJECT: READING                          GRADE: 1
                        TEST PERIOD:   FALL 76 to SPRING 77

                              STUDENT ACHIEVEMENT
                                      BY
                     COMPENSATORY EDUCATION STATUS AND
                         SUMMER SCHOOL PARTICIPATION
                          (using matched students)

                                      COMP. ED. STUDENTS       NON COMP. ED. STUDENTS                  TOTAL
SCORE              STATISTIC         YES      NO    TOTAL      YES      NO    TOTAL           YES       NO    TOTAL
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

                 NUMBER OF CASES      52     343     395        55     705     760            107     1048     1155

STANDARD SCORE     FALL 76 MEAN      173     175     175       192     195     194            183      188      188
                           S.D.     22.6    26.6    26.1      36.6    37.5    37.4           31.9     35.5     35.2

                      GAIN MEAN       43      67      64        69      69      69             56       68       67
                           S.D.     46.8    44.6    45.6      37.4    34.1    34.3           44.0     37.8     38.6


PERCENTILE         FALL 76 MEAN       21      22      22        38      41      41             29       34       34

                      GAIN MEAN       -4      10       8        10       9      10              1       10        9

GRADE EQUIVALENT   FALL 76 MEAN      0.4     0.4     0.4       0.6     0.7     0.7            0.5      0.5      0.5

                      GAIN MEAN      0.9     1.2     1.2       1.1     1.0     1.0            1.1      1.2      1.2

**********************************************************************************************

                 ************************************************************************
                 *
                 *          'YES'  means students who participated in summer programs
                 *
                 *     'NO'  means students who did not participate in a summer program
                 *
                 *
                 ************************************************************************
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IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: READING GRADE: 1

TEST PERIOD: FALL 76 to SPRING 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
PRETEST SCORE
(using matched students)

		COMP. ED. STUDENTS			NON COMP. ED. STUDENTS				TOTAL		
SCORE	STATISTIC	> MEAN	< MEAN	TOTAL	> MEAN	< MEAN	TOTAL		> MEAN	< MEAN	TOTAL
	NUMBER OF CASES	40	355	395	277	483	760	*	317	838	1155
STANDARD SCORE	FALL 76 MEAN	226	169	175	234	172	194	*	233	171	188
	S.D.	18.7	19.9	26.1	26.0	20.7	37.4	*	25.3	20.4	35.2
	GAIN MEAN	31	68	64	55	77	69	*	52	73	67
	S.D.	40.6	44.6	45.6	26.1	35.8	34.3	*	29.4	40.0	38.6
PERCENTILE	FALL 76 MEAN	73	18	22	80	20	41	*	79	19	34
	GAIN MEAN	-28	11	8	-8	18	10	*	-10	15	9
GRADE EQUIVALENT	FALL 76 MEAN	1.4	0.3	0.4	1.5	0.3	0.7	*	1.5	0.3	0.5
	GAIN MEAN	0.3	1.2	1.2	0.5	1.4	1.0	*	0.4	1.3	1.2

'> MEAN' means students achieving above the national norm in Fall 1976

'MEAN <' means students achieving below the national norm in Fall 1976

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: READING GRADE: 1

TEST PERIOD: FALL 76 to SPRING 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
FALL-TO-SPRING GAIN
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS > MEAN	COMP. ED. STUDENTS < MEAN	COMP. ED. STUDENTS TOTAL	NON COMP. ED. STUDENTS > MEAN	NON COMP. ED. STUDENTS < MEAN	NON COMP. ED. STUDENTS TOTAL		TOTAL > MEAN	TOTAL < MEAN	TOTAL
	NUMBER OF CASES	203	192	395	398	362	760	*	601	554	1155
STANDARD SCORE	FALL 76 MEAN	168	183	175	183	207	194	*	178	199	188
	S.D.	22.3	27.5	26.1	31.5	39.7	37.4	*	29.6	37.5	35.2
	GAIN MEAN	99	26	64	95	41	69	*	96	36	67
	S.D.	24.9	29.5	45.6	21.4	21.2	34.3	*	22.7	25.3	38.6
PERCENTILE	FALL 76 MEAN	17	29	22	29	54	41	*	25	46	34
	GAIN MEAN	36	-16	8	32	-16	10	*	34	-18	9
GRADE EQUIVALENT	FALL 76 MEAN	0.3	0.5	0.4	0.5	1.2	0.7	*	0.4	0.8	0.5
	GAIN MEAN	1.5	0.7	1.2	1.4	0.5	1.0	*	1.4	0.7	1.2

```
*****************************************************************
*
* '> MEAN'  means students achieving a fall-to-spring gain above the sample
*
* '< MEAN'  means students achieving a fall to spring gain below the
*
*
*****************************************************************
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IDS FOLLOW UP TESTING ANALYSIS

SUBJECT: READING GRADE: 1

TEST PERIOD: SPRING 77 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS YES	NO	TOTAL	NON COMP. ED. STUDENTS YES	NO	TOTAL		TOTAL YES	NO	TOTAL
	NUMBER OF CASES	52	343	395	55	705	760	*	107	1048	1155
STANDARD SCORE	SPRING 77 MEAN	216	242	239	261	264	263	*	239	257	255
	S.D.	39.3	42.7	43.1	33.6	40.4	39.9	*	42.7	42.3	42.7
	GAIN MEAN	5	0	0	11	8	8	*	8	5	5
	S.D.	26.1	26.0	26.1	25.5	21.0	21.4	*	25.8	23.1	23.4
PERCENTILE	SPRING 77 MEAN	16	33	30	48	50	50	*	30	44	43
	GAIN MEAN	-7	-17	-16	-15	-18	-18	*	12	-18	-18
GRADE EQUIVALENT	SPRING 77 MEAN	1.3	1.6	1.6	1.7	1.7	1.7	*	1.6	1.7	1.7
	GAIN MEAN	0.1	0.0	0.0	0.1	0.1	0.1	*	0.0	0.0	0.0

****

'YES' means students who participated in summer program

'NO' means students who did not participate in a summer program

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: READING GRADE: 1

TEST PERIOD: SPRING 77 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
PRETEST SCORE
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS > MEAN	COMP. ED. STUDENTS < MEAN	COMP. ED. STUDENTS TOTAL	NON COMP. ED. STUDENTS > MEAN	NON COMP. ED. STUDENTS < MEAN	NON COMP. ED. STUDENTS TOTAL	TOTAL > MEAN	TOTAL < MEAN	TOTAL TOTAL
	NUMBER OF CASES	40	355	395	277	483	760	317	838	1155
STANDARD SCORE	SPRING 77 MEAN	256	237	239	289	249	263	284	244	255
	S.D.	46.2	42.4	43.1	32.9	36.7	39.9	36.4	39.4	42.7
	GAIN MEAN	0	0	0	10	7	8	8	4	5
	S.D.	26.1	26.1	26.1	19.5	22.3	21.4	20.7	24.2	23.4
PERCENTILE	SPRING 77 MEAN	44	29	30	70	38	50	67	34	43
	GAIN MEAN	-22	-16	-16	-19	-16	-18	-20	-16	-18
GRADE EQUIVALENT	SPRING 77 MEAN	1.7	1.5	1.6	2.0	1.7	1.7	1.9	1.6	1.7
	GAIN MEAN	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0

'> MEAN' means students achieving above the national norm in Fall 1977

'MEAN <' means students achieving below the national norm in Fall 1977

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: READING GRADE: 1

TEST PERIOD: SPRING 77 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
FALL-TO-SPRING GAIN
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS			NON COMP. ED. STUDENTS				TOTAL		
		> MEAN	< MEAN	TOTAL	> MEAN	< MEAN	TOTAL		> MEAN	< MEAN	TOTAL
	NUMBER OF CASES	203	192	395	398	362	760	*	601	554	1155
STANDARD SCORE	SPRING 77 MEAN	267	209	239	277	248	263	*	274	234	255
	S.D.	27.1	36.6	43.1	29.5	44.1	39.9	*	29.1	45.5	42.7
	GAIN MEAN	-1	3	0	6	10	8	*	3	8	5
	S.D.	23.4	28.4	26.1	20.5	22.0	21.4	*	21.9	24.7	23.4
PERCENTILE	SPRING 77 MEAN	53	12	30	61	37	50	*	59	27	43
	GAIN MEAN	-25	-6	-16	-21	-13	-18	*	-24	-11	-18
GRADE EQUIVALENT	SPRING 77 MEAN	1.8	1.2	1.6	1.9	1.6	1.7	*	1.8	1.5	1.7
	GAIN MEAN	0.0	0.0	0.0	0.0	0.1	0.1	*	0.1	0.1	0.0

```
*****************************************************************
*
* '> MEAN'  means students achieving a fall to spring gain above the sample mean
*
* '< MEAN'  means students achieving a fall to spring gain below the sample mean
*
*
*****************************************************************
```

IDS FOLLOW UP TESTING ANALYSIS

SUBJECT: READING GRADE: 1

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS YES	NO	TOTAL	NON COMP. ED. STUDENTS YES	NO	TOTAL	TOTAL YES	NO	TOTAL
	NUMBER OF CASES	52	343	395	55	705	760	107	1048	1156
STANDARD SCORE	FALL 76 MEAN	173	175	175	192	195	194	183	188	188
	S.D.	22.6	26.6	26.1	36.6	37.5	37.4	31.9	35.5	35.2
	GAIN MEAN	48	67	64	79	77	77	64	73	73
	S.D.	53.1	47.8	48.9	44.9	37.1	37.1	51.4	41.2	42.3
PERCENTILE	FALL 76 MEAN	21	22	22	38	41	41	29	34	34
	GAIN MEAN	-12	-7	-8	-6	-9	-8	-11	-8	-9
GRADE EQUIVALENT	FALL 76 MEAN	0.4	0.4	0.4	0.6	0.7	0.7	0.5	0.5	0.5
	GAIN MEAN	1.0	1.2	1.2	1.2	1.1	1.1	1.1	1.2	1.2

```
*******************************************************************
*
*           'YES'  means students who participated in summer programs
*
*     'NO'  means students who did not participate in a summer program
*
*
*******************************************************************
```

IDS FOLLOW UP TESTING ANALYSIS

SUBJECT: READING GRADE: 1

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
PRETEST SCORE
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS > MEAN	COMP. ED. STUDENTS < MEAN	COMP. ED. STUDENTS TOTAL	NON COMP. ED. STUDENTS > MEAN	NON COMP. ED. STUDENTS < MEAN	NON COMP. ED. STUDENTS TOTAL	TOTAL > MEAN	TOTAL <MEAN	TOTAL
	NUMBER OF CASES	40	355	395	277	483	760	317	838	1156
STANDARD SCORE	FALL 76 MEAN	226	169	175	234	172	194	233	171	188
	S.D.	18.7	19.9	26.1	26.0	20.7	37.4	25.3	20.4	35.2
	GAIN MEAN	31	68	64	64	84	77	60	77	73
	S.D.	43.2	48.1	48.9	29.6	30.9	37.7	33.5	44.3	42.3
PERCENTILE	FALL 76 MEAN	73	18	22	80	20	41	79	19	34
	GAIN MEAN	-50	-5	-8	-29	1	-8	-31	-1	-9
GRADE EQUIVALENT	FALL 76 MEAN	1.4	0.3	0.4	1.5	0.3	0.7	1.5	0.3	0.5
	GAIN MEAN	0.3	1.2	1.2	0.6	1.4	1.1	0.6	1.4	1.2

```
**************************************************************************
*
*    '> MEAN'  means students achieving above the national norm in Fall 1976
*
*    'MEAN <'  means students achieving below the national norm in Fall 1976
*
*
**************************************************************************
```

IDS FOLLOW UP TESTING ANALYSIS

SUBJECT: READING GRADE: 1

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
FALL-TO-SPRING GAIN
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS > MEAN	< MEAN	TOTAL	NON COMP. ED. STUDENTS > MEAN	< MEAN	TOTAL	TOTAL > MEAN	< MEAN	TOTAL
	NUMBER OF CASES	203	192	395	398	362	760	601	554	1155
STANDARD SCORE	FALL 76 MEAN	168	183	175	183	207	194	178	199	188
	S.D.	22.3	27.5	26.1	31.5	30.7	37.4	29.6	37.5	35.2
	GAIN MEAN	97	29	64	100	51	77	99	43	73
	S.D.	34.1	36.2	48.9	28.0	29.1	37.7	30.2	33.4	42.3
PERCENTILE	FALL 76 MEAN	17	29	22	29	54	41	25	46	34
	GAIN MEAN	10	-23	-8	10	-30	-8	9	-30	-9
GRADE EQUIVALENT	FALL 76 MEAN	0.3	0.5	0.4	0.5	1.2	0.7	0.4	0.8	0.5
	GAIN MEAN	1.5	0.7	1.2	1.4	0.5	1.1	1.5	0.8	1.2

```
**********************************************************************
*
* '> MEAN'  means students achieving a fall-to-spring gain above the
*
* '< MEAN'  means students achieving a fall-to-spring gain below the
*
*
**********************************************************************
```

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 4

TEST PERIOD: FALL 76 to SPRING 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

		COMP. ED. STUDENTS			NON COMP. ED. STUDENTS			TOTAL		
SCORE	STATISTIC	YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL
	NUMBER OF CASES	32	111	143	66	987	1053	98	1098	1196
STANDARD SCORE	FALL 76 MEAN	202	200	200	208	210	210	206	209	208
	S.D.	20.4	25.6	24.4	26.7	27.0	27.0	24.9	27.0	[illegible]
	GAIN MEAN	32	38	37	52	50	50	45	49	49
	S.D.	33.1	33.8	33.6	32.2	33.3	33.2	33.7	33.5	33.5
PERCENTILE	FALL 76 MEAN	27	25	25	33	35	35	31	34	34
	GAIN MEAN	-1	3	2	18	16	16	10	15	14
GRADE EQUIVALENT	FALL 76 MEAN	0.5	0.4	0.4	0.6	0.6	0.6	0.5	0.6	0.6
	GAIN MEAN	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1

```
**************************************************************
*
*          'YES'  means students who participated in summer program.
*
*     'NO'  means students who did not participate in a summer program.
*
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                         IDS FOLLOW-UP TESTING ANALYSIS

                  SUBJECT: MATH                              GRADE: 1

                         TEST PERIOD:   FALL 76 to SPRING 77

                                 STUDENT ACHIEVEMENT
                                         BY
                          COMPENSATORY EDUCATION STATUS AND
                                    PRETEST SCORE
                               (using matched students)

                                 COMP. ED. STUDENTS             NON COMP. ED. STUDENTS                      TOTAL
  SCORE           STATISTIC       > MEAN   < MEAN   TOTAL       > MEAN   < MEAN   TOTAL        > MEAN   < MEAN    TOTAL
          - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

               NUMBER OF CASES       21      122      143          283      770    1053   *      304      892     1196

  STANDARD SCORE    FALL 76 MEAN    233      194      200          242      198     210   *      242      197      208
                            S.D.    8.1     21.7     24.4         16.5     18.9    27.0   *     16.2     19.3     26.9

                       GAIN MEAN     24       39       37           40       54      50   *       39       52       49
                            S.D.   41.6     31.7     33.6         26.8     34.5    33.2   *     28.2     34.5     33.5


  PERCENTILE        FALL 76 MEAN     63       19       25           73       23      35   *       73       22       34

                       GAIN MEAN    -14        5        2            0       19      16   *       -0       17       14

  GRADE EQUIVALENT  FALL 76 MEAN    1.4      0.3      0.4          1.5      0.4     0.6   *      1.5      0.4      0.6

                       GAIN MEAN    0.3      1.1      1.0          0.6      1.2     1.1   *      0.6      1.2      1.1

 ********************************************************************************************************

                   *************************************************************************
                   *                                                                       *
                   *    '> MEAN'  means students achieving above the national norm in Fall 1976   *
                   *                                                                       *
                   *    'MEAN <'  means students achieving below the national norm in Fall 1976   *
                   *                                                                       *
                   *                                                                       *
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IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 1

TEST PERIOD: FALL 76 to SPRING 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
FALL-TO-SPRING GAIN
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS			NON COMP. ED. STUDENTS				TOTAL		
		> MEAN	< MEAN	TOTAL	> MEAN	< MEAN	TOTAL		> MEAN	< MEAN	TOTAL
	NUMBER OF CASES	48	95	143	569	484	1053	*	617	579	1196
STANDARD SCORE	FALL 76 MEAN	189	206	200	203	218	210	*	201	216	208
	S.D.	28.0	20.1	24.4	26.7	24.9	27.0	*	27.0	24.6	[illegible]
	GAIN MEAN	74	19	37	74	22	50	*	74	21	40
	S.D.	18.1	22.7	33.6	20.9	19.6	33.2	*	20.7	20.2	33.6
PERCENTILE	FALL 76 MEAN	15	31	25	28	45	35	*	26	43	34
	GAIN MEAN	39	-12	2	41	-15	16	*	41	-15	14
GRADE EQUIVALENT	FALL 76 MEAN	0.2	0.5	0.4	0.5	0.9	0.6	*	0.4	0.8	0.6
	GAIN MEAN	1.6	0.6	1.0	1.5	0.6	1.1	*	1.6	0.6	1.1

```
**********************************************************************
*                                                                    *
* '> MEAN'  means students achieving a fall-to-spring gain above the sample mean  *
*                                                                    *
* '< MEAN'  means students achieving a fall-to-spring gain below the sample mean  *
*                                                                    *
*                                                                    *
**********************************************************************
```

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 1

TEST PERIOD: SPRING 77 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS YES	NO	TOTAL	NON COMP. ED. STUDENTS YES	NO	TOTAL		TOTAL YES	NO	TOTAL
	NUMBER OF CASES	32	111	143	66	987	1053	*	98	1098	1196
STANDARD SCORE	SPRING 77 MEAN	234	238	237	260	260	260	*	251	258	257
	S.D.	28.6	32.9	31.9	33.4	34.2	34.1	*	34.0	34.7	34.6
	GAIN MEAN	0	3	2	6	4	4	*	4	4	4
	S.D.	28.9	24.3	25.3	26.7	25.3	25.4	*	27.4	25.2	25.4
PERCENTILE	SPRING 77 MEAN	25	28	27	51	51	51	*	41	49	48
	GAIN MEAN	-12	-12	-12	-16	-18	-18	*	-15	-18	-17
GRADE EQUIVALENT	SPRING 77 MEAN	1.4	1.4	1.4	1.7	1.7	1.7	*	1.6	1.7	1.7
	GAIN MEAN	0.0	0.1	0.1	0.1	0.1	0.1	*	0.0	0.1	0.1

'YES' means students who participated in summer programs

'NO' means students who did not participate in a summer program

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 1

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS YES	NO	TOTAL	NON COMP. ED. STUDENTS YES	NO	TOTAL		TOTAL YES	NO	TOTAL
	NUMBER OF CASES	32	111	143	66	987	1053	*	98	1098	1196
STANDARD SCORE	FALL 76 MEAN	202	200	200	208	210	210	*	206	209	208
	S.D.	20.4	25.5	24.4	26.7	27.0	27.0	*	24.9	27.0	26.9
	GAIN MEAN	32	42	40	58	54	55	*	50	53	53
	S.D.	34.6	34.6	34.7	35.8	33.0	33.2	*	37.3	33.4	33.7
PERCENTILE	FALL 76 MEAN	27	25	25	33	35	35	*	31	34	34
	GAIN MEAN	-14	-9	-10	1	-2	-2	*	-5	-3	-3
GRADE EQUIVALENT	FALL 76 MEAN	0.5	0.4	0.4	0.6	0.6	0.6	*	0.5	0.6	0.6
	GAIN MEAN	1.0	1.1	1.0	1.2	1.2	1.2	*	1.1	1.2	1.2

'YES' means students who participated in summer programs.

'NO' means students who did not participate in a summer program.

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH   GRADE: 1

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
PRETEST SCORE
(using matched students)

		COMP. ED. STUDENTS			NON COMP. ED. STUDENTS				TOTAL		
SCORE	STATISTIC	> MEAN	< MEAN	TOTAL	> MEAN	< MEAN	TOTAL		> MEAN	< MEAN	TOTAL
	NUMBER OF CASES	21	122	143	283	770	1053	*	304	892	1196
STANDARD SCORE	FALL 76 MEAN	233	194	200	242	198	210	*	242	197	208
	S.D.	8.1	21.7	24.4	16.5	18.9	27.0	*	16.2	19.3	26.9
	GAIN MEAN	30	41	40	44	58	55	*	43	56	53
	S.D.	38.4	33.9	34.7	28.2	34.1	33.2	*	29.2	34.5	33.7
PERCENTILE	FALL 76 MEAN	63	19	25	73	23	35	*	73	22	34
	GAIN MEAN	-31	-6	-10	-19	3	-2	*	-20	1	-3
GRADE EQUIVALENT	FALL 76 MEAN	1.4	0.3	0.4	1.5	0.4	0.6	*	1.5	0.4	0.6
	GAIN MEAN	0.4	1.1	1.0	0.7	1.3	1.2	*	0.7	1.2	1.2

'> MEAN' means students achieving above the national norm in Fall 1976

'MEAN <' means students achieving below the national norm in Fall 1976

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 1

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
FALL-TO-SPRING GAIN
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS			NON COMP. ED. STUDENTS				TOTAL		
		> MEAN	< MEAN	TOTAL	> MEAN	< MEAN	TOTAL		> MEAN	< MEAN	TOTAL
	NUMBER OF CASES	48	95	143	569	484	1053	*	617	579	1196
STANDARD SCORE	FALL 76 MEAN	189	206	200	203	218	210	*	201	216	208
	S.D.	28.0	20.1	24.4	26.7	24.9	27.0	*	27.0	24.6	26.9
	GAIN MEAN	69	25	40	72	34	55	*	72	33	53
	S.D.	27.3	28.1	34.7	28.1	26.4	33.2	*	28.1	26.9	33.7
PERCENTILE	FALL 76 MEAN	15	31	25	28	45	35	*	26	43	34
	GAIN MEAN	12	-20	-10	15	-21	-2	*	15	-22	-3
GRADE EQUIVALENT	FALL 76 MEAN	0.2	0.5	0.4	0.5	0.9	0.6	*	0.4	0.8	0.6
	GAIN MEAN	1.5	0.8	1.0	1.5	0.7	1.2	*	1.5	0.8	1.2

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***************************************************************************
*                                                                         *
* '> MEAN'  means students achieving a fall-to-spring gain above the sample mean  *
*                                                                         *
* '< MEAN'  means students achieving a fall-to-spring gain below the sample mean  *
*                                                                         *
*                                                                         *
***************************************************************************
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IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: READING GRADE: 3

TEST PERIOD: FALL 76 to SPRING 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

		COMP. ED. STUDENTS			NON COMP. ED. STUDENTS				TOTAL		
SCORE	STATISTIC	YES	NO	TOTAL	YES	NO	TOTAL		YES	NO	TOTAL
	NUMBER OF CASES	21	544	565	37	727	764	*	58	1271	1329
STANDARD SCORE	FALL 76 MEAN	272	281	280	295	335	333	*	287	312	310
	S.D.	40.6	50.5	50.2	60.2	63.4	63.8	*	54.7	64.1	63.9
	GAIN MEAN	44	43	43	54	49	49	*	51	46	47
	S.D.	58.4	48.0	48.4	50.5	43.0	43.3	*	53.2	45.3	45.6
PERCENTILE	FALL 76 MEAN	12	15	15	20	42	41	*	18	29	28
	GAIN MEAN	7	7	7	13	10	10	*	10	9	9
GRADE EQUIVALENT	FALL 76 MEAN	1.8	1.9	1.9	2.0	2.8	2.8	*	1.9	2.3	2.3
	GAIN MEAN	0.6	0.7	0.7	1.1	1.0	1.0	*	0.9	1.0	1.0

'YES' means students who participated in summer programs.

'NO' means students who did not participate in a summer program.

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                        IDS FOLLOW-UP TESTING ANALYSIS

                 SUBJECT: READING                       GRADE: 3

                         TEST PERIOD:   FALL 76 to SPRING 77

                                 STUDENT ACHIEVEMENT
                                         BY
                          COMPENSATORY EDUCATION STATUS AND
                                    PRETEST SCORE
                               (using matched students)

                                  COMP. ED. STUDENTS              NON COMP. ED. STUDENTS                        TOTAL
 SCORE          STATISTIC       > MEAN   < MEAN   TOTAL         > MEAN   < MEAN   TOTAL          > MEAN   < MEAN   TOTAL
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

            NUMBER OF CASES         48      517     565            286      478     764    *      334      995    1329

 STANDARD SCORE   FALL 76 MEAN     391      270     280            398      294     333    *      397      281     310
                          S.D.     31.3     37.7    50.2           40.1     38.5    63.8   *      39.0     39.9    63.9

                     GAIN MEAN      38       44      43             36       58      49    *       36       50      47
                          S.D.     39.4     49.1    48.4           35.6     45.4    43.3   *      36.1     47.9    45.6


 PERCENTILE       FALL 76 MEAN      73       11      15             77       20      41    *       76       16      28

                     GAIN MEAN       2        7       7              0       15      10    *        1       10       9

 GRADE EQUIVALENT FALL 76 MEAN     3.9      1.8     1.9            4.1      2.0     2.8    *      4.1      1.9     2.3

                     GAIN MEAN     1.0      0.5     0.7            1.0      1.1     1.0    *      1.0      0.9     1.0

 ****************************************************************************************************************

                    ********************************************************************************
                    *                                                                              *
                    *    '> MEAN'  means students achieving above the national norm in Fall 1976.  *
                    *                                                                              *
                    *    'MEAN <'  means students achieving below the national norm in Fall 1976.  *
                    *                                                                              *
                    *                                                                              *
                    ********************************************************************************
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IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: READING GRADE: 3

TEST PERIOD: FALL 76 to SPRING 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
FALL-TO-SPRING GAIN

(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS			NON COMP. ED. STUDENTS				TOTAL		
		> MEAN	< MEAN	TOTAL	> MEAN	< MEAN	TOTAL		> MEAN	< MEAN	TOTAL
	NUMBER OF CASES	245	320	565	380	384	704	*	625	704	1329
STANDARD SCORE	FALL 76 MEAN	264	292	280	315	350	333	*	295	324	310
	S.D.	56.3	41.1	50.2	65.7	56.7	63.8	*	66.9	57.9	63.9
	GAIN MEAN	86	10	43	83	16	49	*	84	14	47
	S.D.	33.1	28.5	48.4	31.2	24.3	43.3	*	31.9	26.5	45.6
PERCENTILE	FALL 76 MEAN	10	20	15	30	51	41	*	20	35	28
	GAIN MEAN	24	-5	7	29	-7	10	*	30	-6	9
GRADE EQUIVALENT	FALL 76 MEAN	1.8	2.0	1.9	2.4	3.1	2.8	*	2.0	2.6	2.3
	GAIN MEAN	1.3	0.2	0.7	1.7	0.3	1.0	*	1.7	0.3	1.0

'> MEAN' means students achieving a fall-to-spring gain above the sample mean

'< MEAN' means students achieving a fall-to spring gain below the sample mean

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: READING GRADE: 3

TEST PERIOD: SPRING 77 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS YES	COMP. ED. STUDENTS NO	COMP. ED. STUDENTS TOTAL	NON COMP. ED. STUDENTS YES	NON COMP. ED. STUDENTS NO	NON COMP. ED. STUDENTS TOTAL		TOTAL YES	TOTAL NO	TOTAL TOTAL
	NUMBER OF CASES	21	544	565	37	727	764	*	58	1271	1329
STANDARD SCORE	SPRING 77 MEAN	315	324	323	349	384	382	*	337	358	357
	S.D.	41.5	54.7	54.3	49.0	62.8	62.6	*	49.0	66.5	66.0
	GAIN MEAN	-3	10	9	-2	12	11	*	-2	11	11
	S.D.	39.9	33.9	34.2	27.7	32.6	32.5	*	32.3	33.2	33.3
PERCENTILE	SPRING 77 MEAN	19	22	22	34	52	51	*	28	38	38
	GAIN MEAN	-6	-1	-1	-8	-2	-2	*	-7	-2	-2
GRADE EQUIVALENT	SPRING 77 MEAN	2.4	2.6	2.6	3.1	3.8	3.8	*	2.9	3.3	3.3
	GAIN MEAN	-0.0	0.2	0.2	0.0	0.2	0.2	*	-0.0	0.2	0.2

'YES' means students who participated in summer programs.

'NO' means students who did not participate in a summer program.

```
                       IDS FOLLOW-UP TESTING ANALYSIS

                  SUBJECT: READING                          GRADE: 3

                          TEST PERIOD: SPRING 77 to FALL 77

                                   STUDENT ACHIEVEMENT
                                           BY
                          COMPENSATORY EDUCATION STATUS AND
                                      PRETEST SCORE
                                (using matched students)

                                          COMP. ED. STUDENTS          NON COMP. ED. STUDENTS                      TOTAL
   SCORE              STATISTIC         > MEAN   < MEAN   TOTAL      > MEAN   < MEAN   TOTAL         > MEAN   < MEAN    TOTAL
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

                   NUMBER OF CASES          48      517     565        286      478     764    *      334      995     1329

 STANDARD SCORE    SPRING 77 MEAN          429      314     323        433      351     382    *      433      332      357
                          S.D.            49.5     43.3    54.3       52.2     46.1    62.6    *     51.8     48.5     66.0

                        GAIN MEAN           18        9       9         21        6      11    *       21        7       11
                          S.D.            35.7     34.0    34.2       34.1     30.1    32.5    *     34.3     32.2     33.3


 PERCENTILE        SPRING 77 MEAN           75       18      22         77       35      51    *       77       25       38

                        GAIN MEAN           -0       -1      -1          0       -4      -2    *        0       -3       -2

 GRADE EQUIVALENT  SPRING 77 MEAN          4.9      2.3     2.6        5.1      3.1     3.8    *      5.1      2.8      3.3

                        GAIN MEAN          0.5      0.2     0.2        0.6      0.1     0.2    *      0.6      0.1      0.2

**************************************************************************************************************************

                    ******************************************************************************
                    *
                    *    '> MEAN'  means students achieving above the national norm in Fall 1976
                    *
                    *    'MEAN <'  means students achieving below the national norm in Fall [illegible]
                    *
                    *
                    ******************************************************************************
```

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                       IDS FOLLOW-UP TESTING ANALYSIS

             SUBJECT: READING                          GRADE: 3

                     TEST PERIOD: SPRING 77 to FALL 77

                              STUDENT ACHIEVEMENT
                                      BY
                    COMPENSATORY EDUCATION STATUS AND
                              FALL-TO-SPRING GAIN
                           (using matched students)

                                    COMP. ED. STUDENTS          NON COMP. ED. STUDENTS                   TOTAL
   SCORE            STATISTIC      > MEAN   < MEAN   TOTAL      > MEAN   < MEAN   TOTAL        > MEAN   < MEAN   TOTAL
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

                 NUMBER OF CASES      245      320     565    .    380      384     764   *      625      704     1329

 STANDARD SCORE   SPRING 77 MEAN      350      303     323         398      367     382   *      379      338      357
                            S.D.     51.4     47.0    54.3        62.1     59.4    62.6   *     62.5     62.8     66.0

                       GAIN MEAN        2       15       9           4       19      11   *        3       17       11
                            S.D.     31.6     35.1    34.2        30.9     32.5    32.5   *     31.2     33.8     33.3


 PERCENTILE       SPRING 77 MEAN       34       14      22          60       43      51   *       50       28       38

                       GAIN MEAN       -6        0      -1          -7        0      -2   *       -7        1       -2

 GRADE EQUIVALENT SPRING 77 MEAN      3.1      2.2     2.6         4.1      3.4     3.5   *      3.7      2.9      3.3

                       GAIN MEAN      0.1      0.2     0.2         0.1      0.4     0.2   *      0.1      0.3      0.2

**************************************************************************************************************

               ****************************************************************************
               *
               * '> MEAN'  means students achieving a fall-to-spring gain above the sample mean  *
               *
               * '< MEAN'  means students achieving a fall-to spring gain below the sample mean
               *
               *
               ****************************************************************************
```

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: READING GRADE: 2

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

		COMP. ED. STUDENTS			NON COMP. ED. STUDENTS			TOTAL		
SCORE	STATISTIC	YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL
	NUMBER OF CASES	21	544	565	37	727	764	58	1271	1329
STANDARD SCORE	FALL 76 MEAN	272	281	280	295	335	333	287	312	310
	S.D.	40.6	50.5	50.2	60.2	63.4	63.8	54.7	64.1	63.9
	GAIN MEAN	39	53	52	52	61	61	47	58	57
	S.D.	50.8	51.9	51.9	50.7	46.6	46.8	50.7	49.1	49.2
PERCENTILE	FALL 76 MEAN	12	15	15	20	42	41	18	29	28
	GAIN MEAN	0	4	4	5	7	7	2	6	6
GRADE EQUIVALENT	FALL 76 MEAN	1.8	1.9	1.9	2.0	2.8	2.8	1.9	2.3	2.3
	GAIN MEAN	0.5	0.9	0.9	1.1	1.2	1.2	0.9	1.2	1.2

'YES' means students who participated in summer program

'NO' means students who did not participate in a summer program

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: READING GRADE: 3

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT BY COMPENSATORY EDUCATION STATUS AND FALL-TO-SPRING GAIN (using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS > MEAN	COMP. ED. STUDENTS < MEAN	COMP. ED. STUDENTS TOTAL	NON COMP. ED. STUDENTS > MEAN	NON COMP. ED. STUDENTS < MEAN	NON COMP. ED. STUDENTS TOTAL		TOTAL > MEAN	TOTAL < MEAN	TOTAL TOTAL
	NUMBER OF CASES	245	320	565	380	384	764	*	625	704	1329
STANDARD SCORE	FALL 76 MEAN	264	292	280	315	350	333	*	295	324	310
	S.D.	56.3	41.1	50.2	65.7	56.7	63.8	*	66.9	57.9	63.9
	GAIN MEAN	88	25	52	87	35	61	*	87	31	57
	S.D.	43.0	40.3	51.9	39.9	38.2	46.8	*	41.1	39.5	49.2
PERCENTILE	FALL 76 MEAN	10	20	15	30	51	41	*	20	35	28
	GAIN MEAN	19	-4	4	22	-7	7	*	22	-6	6
GRADE EQUIVALENT	FALL 76 MEAN	1.8	2.0	1.9	2.4	3.1	2.8	*	2.0	2.6	2.3
	GAIN MEAN	1.4	0.4	0.9	1.9	0.7	1.2	*	1.8	0.6	1.2

```
**************************************************************************
*
* '> MEAN'  means students achieving a fall to spring gain above the
*
* '< MEAN'  means students achieving a fall to spring gain below the
*
*
**************************************************************************
```

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: READING GRADE: 3

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND PRETEST SCORE
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS > MEAN			NON COMP. ED. STUDENTS > MEAN				TOTAL > MEAN		
		> MEAN	< MEAN	TOTAL	> MEAN	< MEAN	TOTAL		> MEAN	< MEAN	TOTAL
	NUMBER OF CASES	48	517	565	286	478	764	*	334	996	1329
STANDARD SCORE	FALL 76 MEAN	391	270	280	398	294	333	*	397	281	310
	S.D.	31.3	37.7	50.2	40.1	38.5	63.8	*	39.0	39.9	63.9
	GAIN MEAN	56	52	52	57	63	61	*	57	57	57
	S.D.	44.1	52.6	51.9	38.3	51.1	46.8	*	39.1	52.2	49.2
PERCENTILE	FALL 76 MEAN	73	11	15	77	20	41	*	76	16	28
	GAIN MEAN	1	5	4	1	10	7	*	1	6	6
GRADE EQUIVALENT	FALL 76 MEAN	3.9	1.8	1.9	4.1	2.0	2.8	*	4.1	1.9	2.3
	GAIN MEAN	1.5	0.8	0.9	1.6	1.3	1.2	*	1.6	1.0	1.2

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*****************************************************************
*
*    '> MEAN'  means students achieving above the national norm in Fall [illegible]
*
*    'MEAN <'  means students achieving below the national norm in Fall [illegible]
*
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IDS FOLLOW UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 3

TEST PERIOD: FALL 76 to SPRING 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND SUMMER SCHOOL PARTICIPATION
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS YES	COMP. ED. STUDENTS NO	COMP. ED. STUDENTS TOTAL	NON COMP. ED. STUDENTS YES	NON COMP. ED. STUDENTS NO	NON COMP. ED. STUDENTS TOTAL		TOTAL YES	TOTAL NO	TOTAL TOTAL
	NUMBER OF CASES	26	288	314	26	959	985	*	52	1247	1299
STANDARD SCORE	FALL 76 MEAN	254	258	258	295	292	292	*	276	284	284
	S.D.	31.9	34.0	33.8	40.9	41.5	41.4	*	41.8	42.3	42.3
	GAIN MEAN	69	63	63	57	64	64	*	63	64	64
	S.D.	38.0	38.4	38.4	32.2	32.4	32.4	*	35.4	33.9	33.9
PERCENTILE	FALL 76 MEAN	4	5	5	21	19	19	*	10	15	15
	GAIN MEAN	19	17	17	21	25	25	*	21	24	24
GRADE EQUIVALENT	FALL 76 MEAN	1.6	1.7	1.7	2.3	2.3	2.3	*	2.0	2.1	2.1
	GAIN MEAN	1.3	1.2	1.2	0.9	1.3	1.3	*	1.2	1.3	1.3

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************************************************************************
*
*          'YES'  means students who participated in summer programs
*
*    'NO'  means students who did not participate in a summer program
*
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IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 3

TEST PERIOD: FALL 76 to SPRING 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND PRETEST SCORE
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS			NON COMP. ED. STUDENTS				TOTAL		
		> MEAN	< MEAN	TOTAL	> MEAN	< MEAN	TOTAL		> MEAN	< MEAN	TOTAL
	NUMBER OF CASES	8	306	314	178	807	985	*	186	1113	1299
STANDARD SCORE	FALL 76 MEAN	355	256	258	352	279	292	*	352	273	284
	S.D.	13.7	30.3	33.8	14.8	33.1	41.4	*	14.7	34.0	42.3
	GAIN MEAN	38	64	63	62	64	64	*	61	64	64
	S.D.	10.7	37.1	38.4	29.5	33.0	32.4	*	32.4	34.1	33.9
PERCENTILE	FALL 76 MEAN	68	5	5	66	12	19	*	66	10	15
	GAIN MEAN	2	16	17	16	23	25	*	16	22	24
GRADE EQUIVALENT	FALL 76 MEAN	3.5	1.7	1.7	3.2	2.0	2.3	*	3.2	2.0	2.1
	GAIN MEAN	1.1	1.2	1.2	1.9	1.3	1.3	*	1.9	1.2	1.3

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*************************************************************************
*
*    '> MEAN'  means students achieving above the national norm in Fall [illegible]
*
*    'MEAN <'  means students achieving below the national norm in Fall [illegible]
*
*
*************************************************************************
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IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 3

TEST PERIOD: FALL 76 to SPRING 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
FALL-TO-SPRING GAIN
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS > MEAN	COMP. ED. STUDENTS < MEAN	COMP. ED. STUDENTS TOTAL	NON COMP. ED. STUDENTS > MEAN	NON COMP. ED. STUDENTS < MEAN	NON COMP. ED. STUDENTS TOTAL		TOTAL > MEAN	TOTAL < MEAN	TOTAL TOTAL
	NUMBER OF CASES	159	155	314	485	500	985	*	644	655	1299
STANDARD SCORE	FALL 76 MEAN	253	263	258	284	300	292	*	276	291	284
	S.D.	37.3	29.2	33.8	45.6	35.1	41.4	*	45.6	37.3	42.3
	GAIN MEAN	93	33	63	89	40	64	*	90	38	64
	S.D.	22.1	25.1	38.4	21.7	20.2	32.4	*	21.9	21.6	31.9
PERCENTILE	FALL 76 MEAN	4	7	5	15	25	19	*	11	19	15
	GAIN MEAN	34	5	17	42	8	25	*	41	8	24
GRADE EQUIVALENT	FALL 76 MEAN	1.6	1.8	1.7	2.1	2.5	2.3	*	2.0	2.2	2.1
	GAIN MEAN	1.8	0.6	1.2	1.9	0.7	1.3	*	1.8	0.8	1.3

* '> MEAN' means students achieving a fall-to spring gain above the [illegible]

* '< MEAN' means students achieving a fall-to-spring gain below the [illegible]

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH   GRADE: 3

TEST PERIOD: SPRING 77 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS YES	NO	TOTAL	NON COMP. ED. STUDENTS YES	NO	TOTAL		TOTAL YES	NO	TOTAL
	NUMBER OF CASES	26	288	314	26	959	985	#	52	1247	1299
STANDARD SCORE	SPRING 77 MEAN	323	321	322	352	356	356	#	338	348	348
	S.D.	32.4	45.2	44.2	45.3	45.6	45.6	#	41.6	47.8	47.6
	GAIN MEAN	-8	1	0	6	0	0	#	-1	0	0
	S.D.	30.1	29.8	29.9	23.6	26.7	26.6	#	27.8	27.4	27.4
PERCENTILE	SPRING 77 MEAN	24	22	23	42	45	44	#	32	39	39
	GAIN MEAN	-10	-4	-5	-4	-8	-8	#	-8	-8	-7
GRADE EQUIVALENT	SPRING 77 MEAN	2.9	2.9	2.9	3.2	3.6	3.6	#	3.2	3.4	3.4
	GAIN MEAN	-0.0	0.0	0.0	0.4	0.0	0.0	#	0.0	0.0	0.0

'YES' means students who participated in summer programs

'NO' means students who did not participate in a summer program

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                         IDS FOLLOW-UP TESTING ANALYSIS

                  SUBJECT: MATH                               GRADE: [illegible]

                          TEST PERIOD: SPRING 77 to FALL 77

                                   STUDENT ACHIEVEMENT
                                           BY
                           COMPENSATORY EDUCATION STATUS AND
                                      PRETEST SCORE
                                (using matched students)

                                      COMP. ED. STUDENTS          NON COMP. ED. STUDENTS                       TOTAL
   SCORE          STATISTIC        > MEAN   < MEAN   TOTAL      > MEAN   < MEAN   TOTAL        > MEAN    < MEAN     TOTAL
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

                 NUMBER OF CASES        8      306     314         178      807     985   *     186      1113      1299

 STANDARD SCORE   SPRING 77 MEAN      393      320     322         414      343     356   *     413       337       348
                            S.D.     70.0     41.9    44.2        36.3     36.8    45.6   *    38.3      39.7      47.6

                       GAIN MEAN        3        0       0           7       -1       0   *       7        -0         0
                            S.D.     16.8     30.2    29.9        29.0     25.8    26.6   *    28.6      27.1      27.4


 PERCENTILE       SPRING 77 MEAN       70       21      23          82       35      44   *      81        31        39

                       GAIN MEAN       -5       -4      -5          -2       -7      -8   *      -1        -7        -7

 GRADE EQUIVALENT SPRING 77 MEAN      4.6      2.9     2.9         5.1      3.3     3.5   *     5.1       3.2       3.4

                       GAIN MEAN      0.1      0.0     0.0         0.2      0.0     0.0   *     0.2       0.0       0.6

 ****************************************************************************************

                 ******************************************************************
                 *
                 *     '> MEAN'  means students achieving above the national norm in Fall [illegible]
                 *
                 *     'MEAN <'  means students achieving below the national norm in Fall [illegible]
                 *
                 *
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                          IDS FOLLOW UP TESTING ANALYSIS

                    SUBJECT: MATH                              GRADE: 3

                            TEST PERIOD: SPRING 77 to FALL 77

                                    STUDENT ACHIEVEMENT
                                            BY
                            COMPENSATORY EDUCATION STATUS AND
                                    FALL TO SPRING GAIN
                                 (using matched students)

                                        COMP. ED. STUDENTS          NON COMP. ED. STUDENTS                       TOTAL
   SCORE           STATISTIC       > MEAN   < MEAN   TOTAL       > MEAN   < MEAN   TOTAL         > MEAN    < MEAN    TOTAL
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

                 NUMBER OF CASES      159      155     314          485      500     985    *      644       655      1299

 STANDARD SCORE    SPRING 77 MEAN     347      296     322          372      340     356    *      366       329       348
                             S.D.    37.8     34.5    44.2         44.2     41.1    45.6    *     44.1      43.8      47.6

                        GAIN MEAN      -9       10       0           -6        7       0    *       -7         8         0
                             S.D.    26.2     30.2    29.9         26.2     25.2    26.6    *     26.2      26.5      27.4


 PERCENTILE        SPRING 77 MEAN      38       11      23           57       33      44    *       52        27        39

                        GAIN MEAN     -13       -0      -5          -14       -2      -8    *      -14        -2        -7

 GRADE EQUIVALENT  SPRING 77 MEAN     3.4      2.3     2.9          4.0      3.2     3.5    *      3.8       3.0       3.4

                        GAIN MEAN    -0.1      0.3     0.0         -0.2      0.2     0.0    *     -0.1       0.2       0.0

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               ********************************************************************************************
               *                                                                                          *
               * '> MEAN'  means students achieving a fall-to spring gain above the sample mean           *
               *                                                                                          *
               * '< MEAN'  means students achieving a fall to spring gain below the sample mean           *
               *                                                                                          *
               *                                                                                          *
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IDS FOLLOW UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 3

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS YES	NO	TOTAL	NON COMP. ED. STUDENTS YES	NO	TOTAL		TOTAL YES	NO	TOTAL
	NUMBER OF CASES	26	288	314	26	959	985	*	52	1247	1299
STANDARD SCORE	FALL 76 MEAN	254	258	258	295	292	292	*	275	284	284
	S.D.	31.9	34.0	33.8	40.9	41.5	41.4	*	41.8	42.3	42.3
	GAIN MEAN	60	64	64	63	64	64	*	61	64	64
	S.D.	35.9	38.4	38.2	28.9	32.9	32.8	*	32.3	34.2	34.1
PERCENTILE	FALL 76 MEAN	4	5	5	21	19	19	*	10	15	15
	GAIN MEAN	8	12	11	16	16	16	*	13	15	15
GRADE EQUIVALENT	FALL 76 MEAN	1.6	1.7	1.7	2.3	2.3	2.3	*	2.0	2.1	2.1
	GAIN MEAN	1.2	1.2	1.2	1.3	1.3	1.3	*	1.2	1.3	1.3

'YES' means students who participated in summer programs

'NO' means students who did not participate in a summer program

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 3

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
PRETEST SCORE
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS > MEAN	COMP. ED. STUDENTS < MEAN	COMP. ED. STUDENTS TOTAL	NON COMP. ED. STUDENTS > MEAN	NON COMP. ED. STUDENTS < MEAN	NON COMP. ED. STUDENTS TOTAL		TOTAL > MEAN	TOTAL < MEAN	TOTAL TOTAL
	NUMBER OF CASES	8	306	314	178	807	985	*	186	1113	1299
STANDARD SCORE	FALL 76 MEAN	355	256	258	352	279	292	*	352	273	284
	S.D.	13.7	30.3	33.8	14.8	33.1	41.4	*	14.7	34.0	42.3
	GAIN MEAN	40	64	64	69	63	64	*	68	63	64
	S.D.	61.7	37.3	38.2	33.1	32.6	32.8	*	35.0	34.0	34.1
PERCENTILE	FALL 76 MEAN	68	5	5	66	12	19	*	66	10	15
	GAIN MEAN	-4	11	11	14	14	16	*	13	13	15
GRADE EQUIVALENT	FALL 76 MEAN	3.5	1.7	1.7	3.2	2.0	2.3	*	3.2	2.0	2.1
	GAIN MEAN	1.2	1.2	1.2	2.1	1.2	1.3	*	2.1	1.2	1.3

'> MEAN' means students achieving above the national norm in Fall 1976

'MEAN <' means students achieving below the national norm in Fall 1976

IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH   GRADE: 3

TEST PERIOD: FALL 76 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
FALL-TO-SPRING GAIN
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS > MEAN	 < MEAN	 TOTAL	NON COMP. ED. STUDENTS > MEAN	 < MEAN	 TOTAL		TOTAL > MEAN	 < MEAN	 TOTAL
	NUMBER OF CASES	159	155	314	485	500	985	*	644	655	1299
STANDARD SCORE	FALL 76 MEAN	253	263	258	284	300	292	*	276	291	284
	S.D.	37.3	29.2	33.8	45.6	35.1	41.4	*	45.6	37.3	42.3
	GAIN MEAN	84	43	64	82	46	64	*	82	46	64
	S.D.	30.5	34.1	38.2	27.9	27.4	32.8	*	28.6	29.2	34.1
PERCENTILE	FALL 76 MEAN	4	7	5	15	25	19	*	11	19	15
	GAIN MEAN	19	3	11	27	5	16	*	26	5	15
GRADE EQUIVALENT	FALL 76 MEAN	1.6	1.8	1.7	2.1	2.5	2.3	*	2.0	2.2	2.1
	GAIN MEAN	1.6	0.8	1.2	1.6	0.9	1.3	*	1.6	1.0	1.3

'> MEAN' means students achieving a fall-to-spring gain above the sample mean

'< MEAN' means students achieving a fall-to-spring gain below the sample mean

IDS FOLLOW UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 1

TEST PERIOD: SPRING 77 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
PRETEST SCORE
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS			NON COMP. ED. STUDENTS				TOTAL		
		> MEAN	< MEAN	TOTAL	> MEAN	< MEAN	TOTAL		> MEAN	< MEAN	TOTAL
	NUMBER OF CASES	21	122	143	283	770	1053	*	304	892	1196
STANDARD SCORE	SPRING 77 MEAN	257	234	237	282	251	260	*	280	249	257
	S.D.	42.7	28.6	31.9	30.8	31.5	34.1	*	32.3	31.7	34.6
	GAIN MEAN	6	2	2	5	4	4	*	5	4	4
	S.D.	17.7	26.4	25.3	24.4	25.8	25.4	*	23.9	25.9	25.4
PERCENTILE	SPRING 77 MEAN	47	25	27	73	41	51	*	72	30	48
	GAIN MEAN	-16	-11	-12	-18	-15	-18	*	-19	-15	-17
GRADE EQUIVALENT	SPRING 77 MEAN	1.7	1.4	1.4	2.1	1.6	1.7	*	2.1	1.6	1.7
	GAIN MEAN	0.1	0.0	0.1	0.1	0.1	0.1	*	0.1	0.0	0.1

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***********************************************************************
*                                                                     *
*    '> MEAN'  means students achieving above the national norm in Fall 1976    *
*                                                                     *
*    'MEAN <'  means students achieving below the national norm in Fall 1976    *
*                                                                     *
*                                                                     *
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IDS FOLLOW-UP TESTING ANALYSIS

SUBJECT: MATH GRADE: 1

TEST PERIOD: SPRING 77 to FALL 77

STUDENT ACHIEVEMENT
BY
COMPENSATORY EDUCATION STATUS AND
SUMMER SCHOOL PARTICIPATION
(using matched students)

SCORE	STATISTIC	COMP. ED. STUDENTS YES	NO	TOTAL	NON COMP. ED. STUDENTS YES	NO	TOTAL		TOTAL YES	NO	TOTAL
	NUMBER OF CASES	32	111	143	66	987	1053	*	98	1098	1196
STANDARD SCORE	SPRING 77 MEAN	234	238	237	260	260	260	*	251	258	257
	S.D.	28.6	32.9	31.9	33.4	34.2	34.1	*	34.0	34.7	34.6
	GAIN MEAN	0	3	2	6	4	4	*	4	4	4
	S.D.	28.9	24.3	25.3	26.7	25.3	25.4	*	27.4	25.2	25.4
PERCENTILE	SPRING 77 MEAN	25	28	27	51	51	51	*	41	49	48
	GAIN MEAN	-12	-12	-12	-16	-18	-18	*	-15	-18	-17
GRADE EQUIVALENT	SPRING 77 MEAN	1.4	1.4	1.4	1.7	1.7	1.7	*	1.6	1.7	1.7
	GAIN MEAN	0.0	0.1	0.1	0.1	0.1	0.1	*	0.0	0.1	0.1

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************************************************************************
*                                                                      *
*          'YES'  means students who participated in summer programs   *
*                                                                      *
*   'NO'  means students who did not participate in a summer program   *
*                                                                      *
*                                                                      *
************************************************************************
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